CLINICAL MEDICINE

LEADING ARTICLES

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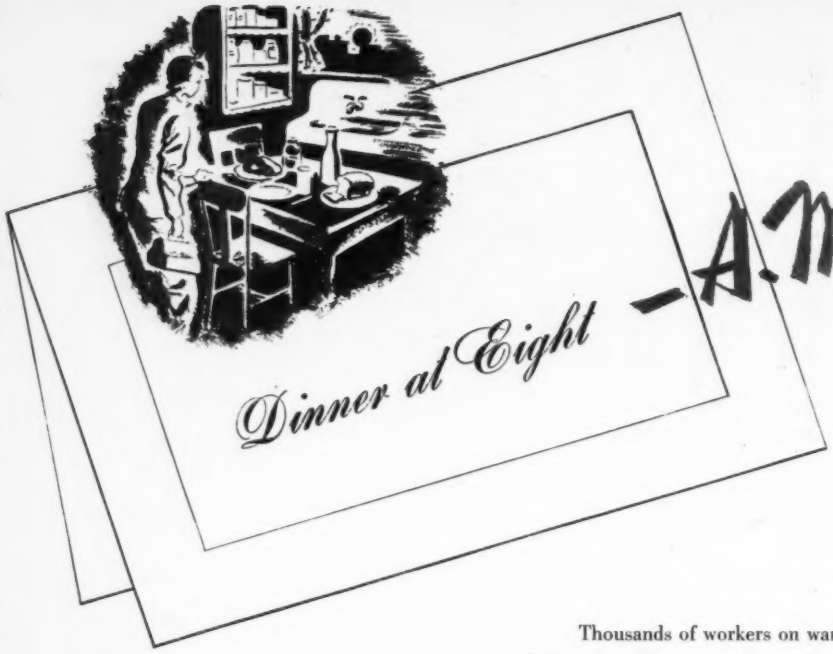
VOLUME 52 Number 1



Thousands of workers on wartime shifts necessarily eat on topsy-turvy schedules—breakfast at midnight, for example, and lunch at three in the morning! And far too often, such erratic hours mean erratic meals. Breakfasts are eaten on the run; lunchboxes hold whatever can be hastily prepared; dinners are cold, pickup snacks. As a result many people fail to receive optimum, *or even adequate*, amounts of the important protective foods—and subclinical vitamin deficiencies are far from rare. ● Where such deficiencies are known or strongly suspected to exist, you may want not only to correct the unbalanced diet, but to prescribe a dependable vitamin supplement as well. Why not specify *Abbott?* No other single word on a vitamin prescription can better insure that your patients receive preparations of dependable purity and potency.

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GEORGE B. LAKE
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MEDICAL NEWS

Gorgas Medal Winner Awarded

Frank F. Law, Vice President of Wyeth Incorporated, congratulates Capt. Lowell T. Coggeshall, USNR, as winner of the Gorgas Medal this year as Col. Irwin T. Bell, President of the Association of Military Surgeons of the United States, looks on.

The Gorgas Medal, sponsored by Wyeth Incorporated, Philadelphia pharmaceutical house, was awarded to Capt. Coggeshall, "for distinguished service to our military forces in establishing new principles in the management of patients suffering from psychic disturbances as well as physical deterioration from the effects of malaria and filariasis," he "instituted the system of psychosomatic rehabilitation by which thousands who faced discharge attributed to malaria and filariasis were returned to full duty. His was not only a brilliant accomplishment in a special field of military medicine, but he also inaugurated a new epoch in the treatment of a wide variety of diseases."

The award carries with it in an honorarium of $500 in addition to the medal, which was established in memory of Surgeon General William Crawford Gorgas, U. S. Army, who made possible the construction of the Panama Canal and was a pioneer in the control of tropical diseases.

Captain Coggeshall, 44 years of age, is a native of Saratoga, Ind.

Population Problems

Kingsley Davis of Princeton, says that should the present global population continue to increase at the same rate that prevailed between 1900 and 1940, the earth would hold over 21 billion inhabitants by the year 2240.

Throughout at least 99% of the history of the human race, he points out, population was extremely sparse, its first real burst of growth coming with the Industrial Revolution, when for the first time a less wasteful type of balance between births and deaths began to manifest itself. *Declining mortality is now the major cause of population increase.*

Philip M. Hauser and Conrad Taeuber, U. S. Government demographers state, "our population will reach relative stability or actually decline before the end of this century; Certainly the continuing rate of increase of the already large population masses of the Orient will necessarily make the population of the United States a smaller and smaller proportion of the total population of the world."

Europe west of Russia, predicts Dudley Kirk of Princeton, will reach its maximum population about 1960. "West-

(Continued on page 22)

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VOLUME 52 JANUARY, 1945 NUMBER 1

Treatment of Compound Hand Injuries

By R. F. MUELLER, M.D.,* *Two Harbors, Minnesota*

INDUSTRY accounts directly for the majority of hand injuries, yet some of the most severe and disabling hand incapacities result from accidents about the farm and home.

Several factors complicate the repair of hand injuries. One of these is the absence of underlying soft tissue so that once the integrity of the skin is violated, then underlying structures such as tendon, bone, nerve, blood vessels, joint and muscle are easily injured. Consideration must be given to the infectious contaminants invariably present on the skin of the hand such as dirt, grease, and dust.

Survey of the Injury

Compound hand injuries, when first seen, must be rapidly appraised and judgment exercised as to the major repair problem. Tendon division can usually be rapidly determined and if present or suspected, operating room preparations should be made for further definitive treatment.

The same procedure applies to amputations, compound fractures, or extensive skin lacerations with muscle or joint involvement and nerve severance. Under such circumstances, sterile pressure dressings are applied to the entire hand, morphine or some other suitable analgesic administered and x-rays taken if desired. A general anesthetic is to be preferred because it allows for the application of a blood pressure cuff for control of bleeding.

*From the Two Harbors Hospital

Wound Cleansing

The technique of wound cleansing encompasses the washing of the surrounding area of the hand first, using cotton, warm, white soap solution, water, and intermittent and final washing with saline.

Gentleness is at all times exercised when inspecting the recesses, crevices, and extension of the wound. A definite plan of repair can be formulated as the cleansing of the wound is carried out. A careful inspection in this interval will reveal any injuries of deeper lying structures that might otherwise be overlooked. The viability of the injured tissues can also be ascertained.

A clean wound, once obtained, is the best possible insurance of primary healing as well as a firm foundation for opposition of injured structures. Attention to refinements of technique in handling the tissues will lend some force to the character and rate of healing. Such refinements are only those of meticulous surgery anywhere, but often they are not too closely adhered to and, in hand wounds particularly, they are quite important. These refinements include the clamping and ligation of all bleeding points including only the bleeding vessels and not surrounding tissue, the adequate use, but not overuse, of suture material of sufficient strength but fine calibre, painstaking suturing, and pres-

sure dressing with adequate splinting.

Certain common injuries should be discussed in some detail, particularly their definitive treatment.

Tendon Division

While other sites of injury are not to be lightly dismissed, the area of greatest difficulty is the division of flexor tendons in the proximal phalanges and palm. The tendons are deep-lying in this location and the injuries, consequently, are usually sharp, deep lacerations. Exposure is important and the original wound opening is seldom sufficient. Extension of, or additional incision, is usually required and care must be exercised in following natural skin folds and creases in making them. The proximity of nerves, blood vessels, and tendons in the palm multiplies the number of injured structures, adds to the confusion of identification, and increases the amount of fibrosis in healing that one wishes to avoid.

The commonest error in repair in this area is the attempt to suture all of the tendons severed. The flexor sublimis and the flexor profundus are rather snugly enclosed in a common tendon sheath. When severed they are divided at the same point. If sutured, the bulk of tissue present prevents covering them adequately with tendon sheath material. Subsequent swelling further increases the contents of the tendon sheath with a likelihood that the sheath will separate even if sutured. The tendons are likely to become adherent and the end result is functionally a poor one. Therefore, one tendon, preferably the flexor sublimis, should be sacrificed by cutting it as far back as possible. The flexor profundus is sutured and adequate sheath protection provided. A satisfactory tendon suture will usually result in a good functional finger. (See figures I, II, III, IV, V.)

Silk sutures have given good results, in the hands of most surgeons, for tendon repair and their continued use can be recommended. Two sutures placed as depicted (See Fig. IV, V) will usually suffice for approximation. These may be reinforced after they are tied with addi-

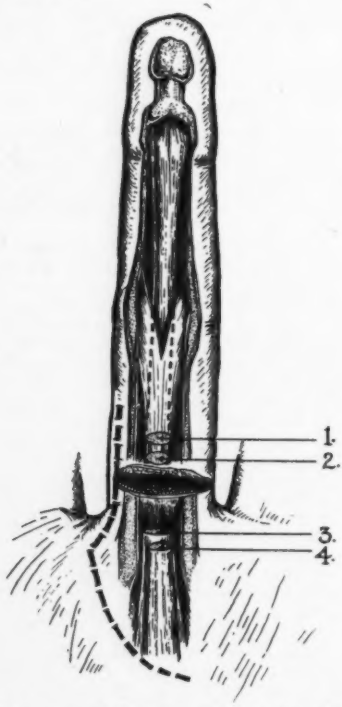


Fig. 1. A laceration through the distal phalanx of the middle finger with division of both flexor tendons. (1, 2, 3, 4.) Lines indicate the preferred site for extension of the incision for exposure.

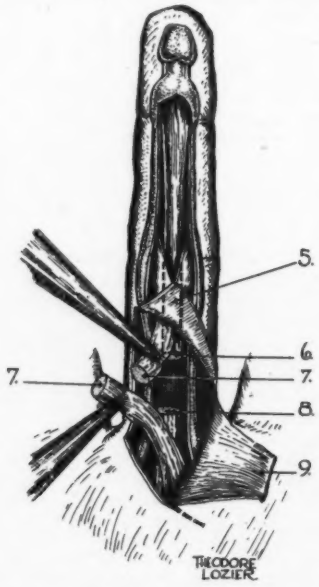


Fig. 2. The wound has been enlarged and the skin flaps (5, 9) are reflected. The flexor sublimis tendon ends (7) are pulled out as far as possible and severed.

tional small approximating sutures at the immediate line of division. If the suture is done under local anesthesia or regional block, the strength of the tendon suture may be immediately tested by asking the patient to contract the involved muscle. A suture that will hold under such circumstances can be considered entirely adequate for a splinted extremity. With the tendon ends adequately anchored, the gliding surface must be left, because without gliding ability the tendon will be useless. Normally, the tendon is provided with an adequate sheath. This sheath is injured with the tendon and it is quite difficult to obtain sufficient coverage in the repair. Nevertheless, such a covering is essential for normal recovery of the underlying tendon.

Extensor tendons of the hand deserve equally important care in treatment. However, with the same principles in suturing, the repair will be completed with greater facility and ease on the dorsal surface of the hand because of the comparative greater ease of exposure and identification. The primary tendon and wound closure is usually possible if the wound is less than twelve hours old, except in such instances as gross contamination which would make it unwise. In such case, the wound is left open and important structures may be tagged with sutures. Tendon suturing is done in three weeks but if wound infection occurs, three months should elapse before repair is attempted.

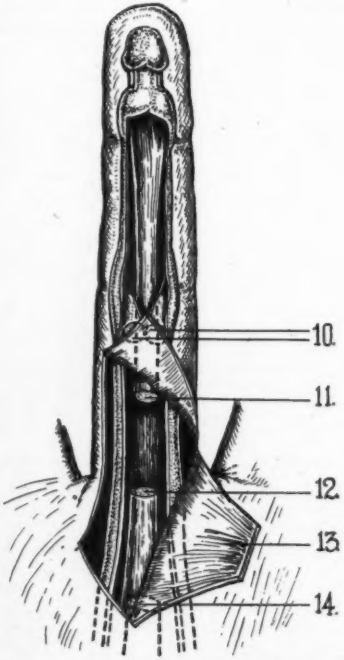


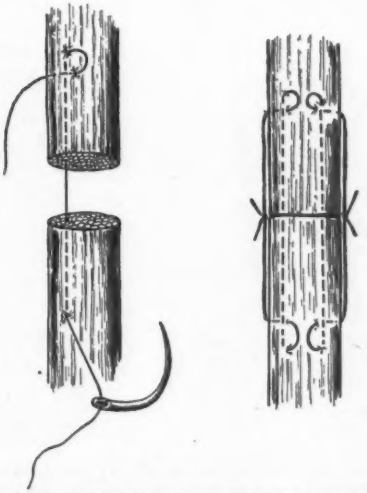
Fig. 3. The ends of the flexor sublimis (10, 14) have retracted leaving the flexor profundus (11, 12) ready for suture.

Amputation

Amputation of the finger is a most common catastrophe and the decision must be made immediately as to the method of repair that will foster a functionally integrated hand. The factors governing this latter result are the degree of movement remaining in the joint proximal to the amputation and the covering of the amputated stump. Intelligence in the application of a repair tailored to the particular damage will determine the excellence of the result. The same technique applied to every amputated finger will shorten many of them needlessly and render them useless.

One of four procedures is applicable to a partially amputated finger:

1. A skin graft may be applied. An oblique amputation caused by a sharp cutting instrument or machine, particularly those through the distal phalanx distal to the bone, are quite receptive to full thickness skin graft. Normally,



Figures 4 and 5. A method of suture for divided tendons is illustrated.

the finger requires a covering of heavy skin, therefore, as a permanent covering, a full thickness graft is necessary. This graft may be cut by sharp scalpel dissection from the forearm, arm, back, or abdomen. The under surface of the graft must be cut very sharply from the underlying fat so that none of the fat is adherent to the graft. The donor site can then be sutured. The finger end is covered with the graft and interrupted sutures are placed about the edges at spaced intervals. The graft is of such a size that when sutured it will be under slight tension. A continuous fine suture on a small sharp needle is placed entirely around the graft taking up the gaps between the interrupted sutures, approximating the edges accurately. The initial dressing over the graft is very fine mesh gauze so that in removal it will not tend to become adherent to the sutures or graft. Following the suture, a pressure dressing is applied over the graft about the fingers and anchored securely to the hand. This dressing becomes saturated with serum and becomes quite firm, very much like a cast. It is left intact for as long as ten days, if no evidence of complications are noted. (See figures 1, 2, 3.)

2. The second method of treating amputation stumps is by wound closure without shortening of the remainder of the finger. Many amputations which, on first appearance, seem to need considerable shortening, can on careful planning and use of existing remaining soft tissue and skin be closed with a satisfactory result and no shortening.

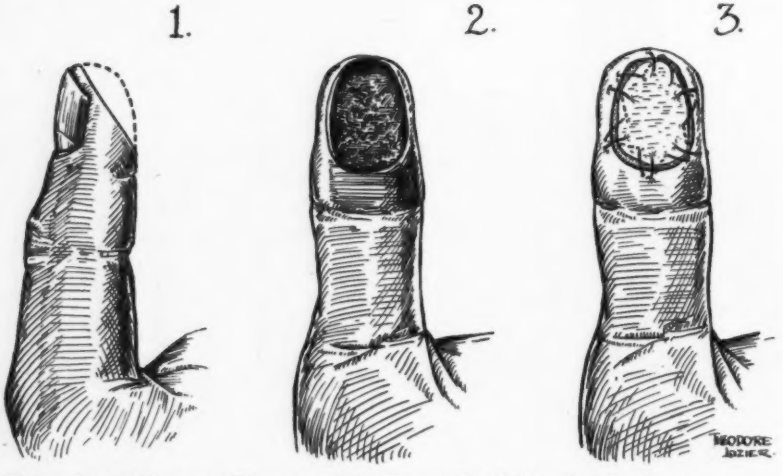
3. The classical finger amputation, with its neat, rounded, well padded stump with suture line posterior, away from the pressure-bearing area, is too well known to amplify.

4. The fourth possibility of treating finger tip amputations is by simple cleansing and sterile dressings. They require from five to ten weeks to heal spontaneously, but the final results are satisfactory. Automobile door amputations are frequently of the type which may be treated by this latter method, particularly in children.

The problem of treating compound fracture is a study in itself, though the problems are not peculiar from those encountered in compound fractures elsewhere. Other structures such as tendons and nerves are usually injured to complicate the problem and the repair of these structures are equally important to that of the fracture, whereas, in other parts of the body the treatment of the fracture is usually primary. Fine stainless steel wire is used when necessary to hold the fracture reduction.

Length of Splinting

Accurate splint timing is of great importance in hand injuries because of the fibrosis and stiffening that may result



Figures 1 and 2 show an oblique amputation through the distal end of the thumb.
Figure 3. A full thickness graft has been sutured in place with interrupted sutures and a continuous suture.

from over splinting or the loss of union that may result from inadequate splinting. In tendon suture three weeks is usually sufficient for a strong union and movements of the fingers may be gradually started after this time. In compound fractures the period may be longer and the x-ray aid as well as clinical judgment must be the criteria of movement time.

Plaster Splint

The molded plaster splint is that of choice in that it may be varied in length and strength depending on the job to be accomplished. It can be used for tendon sutures, fractures, nerve repair or a combination of any of these. Light aluminum splints are likewise very satisfactory and can be adjusted to any desired position by bending them to suit the contour of the hand and position desired.

That period following the removal of splints and sutures is most important to the patient for it is in this interval that he can and should be encouraged to take an active part in the treatment. Careful explanation and demonstration will be of great aid in securing cooperation and interest so essential to prevention of disabling fibrosis from disuse. When healing is secured, function must begin with gradually increasing tempo and frequency.

In conclusion, it can be stated that there are six factors of importance in the treatment of compound hand injuries: 1. The complete diagnosis of the extent of the injury. 2. Thorough cleansing of the wound with mild soap and water solution. 3. Primary closure of the wound by skin graft, if necessary. 4. Meticulous attention to detail in the surgical repair. 5. Proper splinting. 6. Supervised follow-up following the immediate healing period.

Diagnosis of Hemoglobinuria

Red urine is always a cause of anxiety to the patient and cannot be dismissed by the physician by merely calling it functional. The tint in the urine may be due to:

1. Exogenous dyes following ingestion of foods such as beets, or drugs, such as phenolphthalein.

2. Endogenous substances such as hemoglobin, myoglobin or porphyrin.

3. Red blood cells.

The microscope or the benzidine reaction will usually make the distinction between these groups, but if history is uninformative and no red cells are found, the spectroscope may identify the pigment. Most often this pigment will be hemoglobin resulting from a hemolysis in the blood stream beyond the ability of the reticulo-endothelial apparatus or the kidney to handle the hemoglobin and the condition becomes one of hemoglobinuria.

So little is known that classification of hemoglobinemia and the succeeding hemoglobinuria is both arbitrary and unsatisfactory but the following list of conditions will be found useful though not exhaustive:

1. Inhalation of toxic gases such as carbon monoxide, hydrogen sulphide or benzol.

2. Ingestion of such drugs as carbon bisulphide, glycerin, and phenylhydrazine.

3. Certain severe infectious diseases Occasionally in typhoid fever or yellow fever).

4. Diseases in which parasites destroy the red cells, such as malaria and Oroya fever.

5. Severe frost bite, extensive burns and exposure to extreme cold.

6. Incompatible transfusions or injections of incompatible sera.

7. Certain snake, toad and spider bites.

8. Large internal hemorrhages followed by absorption of freed hemoglobin.

9. Vascular disorders such as Raynaud's disease or angioneurotic edema.

10. Physical exertion of certain types of susceptible people—March hemoglobinuria.

11. Various hemolytic anemias such as Cooley's erythroblastic anemia, sickle cell anemia, acute hemolytic anemia of Lederer, and acute phases of familial hemolytic anemia (acholuric jaundice).

12. Nocturnal hemoglobinemia.

13. Henoch's purpura.

14. Allergic paroxysmal hemoglobinuria (favism).

15. Paroxysmal hemoglobinuria.

—I. P. STEPHENSON, M.D., in *McGill Med. J.*, Oct. 1943.

Rheumatic Infection in Childhood*

By ROBERT A. BLACK, M.D., F.A.C.P., *Chicago, Illinois*

THIS disease with its syndrome of symptoms definitely stamps it as a general systemic infection and *not a local involvement of the heart as we are so often inclined to regard it.*

As this is a general systemic disease let us look at what tissues are most severely and commonly affected. These are the fibrous connective tissues. La Sayre said that "Rheumatism is a disease that causes changes in all connective tissues but takes a real bite out of the heart."

Principle Symptoms

Fatigue—Children do not complain of fatigue. It is observed by the mother or teacher. The child becomes cross and irritable. He plays normally with other children for a short period of time and then sits down and watches the other children continue with their play. He goes out to play but soon comes in to drop on the floor or couch with a book or toy that requires little exercise. He becomes irritable with his other playmates. He goes out to play looking fresh and peppy, in a short while he is back home looking pale, white and tired. This is a brief picture of a tired child. *Remember he does not complain of being tired* so your subjective symptom in childhood becomes an objective one and must be sought for.

Pallor—The objective symptom pallor is more noticeable than the blood examination would indicate. The white, wan appearing child often shows a blood count surprisingly nearer to being normal than his pale appearance would suggest. His red count will frequently be close to normal, around 4,000,000 being frequently found, and his hemoglobin will usually not be below 80. The white count rarely above 9,000. The pallor is due to a combination of faulty skin circulation and probably a spasm condition of the small capillaries and is accompanied with a marked loss of turgor in the muscle as well.

Increased Pulse—Normally you expect the 7 to 10 year old child to have a pulse around 90. In the rheumatic child the pulse is often found, even while resting, to be from 110 to 130. There are other interesting pulse observations in the rheumatic child which can be noted and will be of much value to you in your care of him.

Increased Temperature—With the initial onset of childhood rheumatism the temperature is frequently high for several days, then seems to stabilize itself with a normal morning temperature to an afternoon and evening temperature between 99.2 and 100. This low intermittent temperature may continue for months. With each relapse there may be a rise in temperature but rarely to the height of the initial onset. Rarely does it continue as long as it did in its initial appearance. Also, with each relapse the tendency is for the high temperature to be less so that as an indication of a relapse, a child with an advance rheumatism may have a serious relapse with little if any change in that daily stabilization of temperature—99.2 to 100. Relapses are rather common unless the child is carefully guarded from new infections, from overtiring by work, or play. Even with utmost care it would seem to be the rule to have one or more relapses.

Anorexia — The anorexia apparently due to the toxemia, to the constant urging of attendants and parents for the child to eat, is a disconcerting and annoying symptom. This may be improved by rest, lessening of the toxemia and education of parents.

Loss of Weight—The loss of weight or stationary weight is a very obvious symptom if looked for. It is normal for a child to increase in weight and a loss of weight is an even more ominous sign in the child than in an adult. A child losing weight is either being overworked, overplayed, or else he is a sick child. It is up to you as a physician to find out which of these conditions exist.

Respiratory Infection—In almost all cases there is a history of frequent upper respiratory infections or a distinct focal infection. Many of these cases would seem to show an allergic type of child.

Sedimentation—During the past few years we have grown more and more to depend on the sedimentation rate test as a diagnosis for our rheumatic infections. An increased sedimentation rate being a fairly reliable index to the activity of the rheumatic virus.

Pain—"Growing pain" is a vague term used to describe an ache in the ex-

*Read before the Eighth Annual Meeting, Mississippi Valley Medical Society, Quincy, Ill., Oct. 1, 1942.

tremities in childhood. We know that all childhood aches in the extremities are not rheumatism—unknown injuries, over exercise, faulty postures, improper sleeping accommodations, faulty shoes, flat feet and various bone diseases have to be taken into consideration. Briefly let us say that rheumatic pains are most common at night and are more in the calf of the leg and thigh. They nearly always occur during the rest period and disappear with increased circulation that is promoted by heat, rubbing or exercise. Certainly a child that wakes up an hour or so after going to bed complaining with pains in the extremities and in the morning is a little stiff, until he gets going, is having rheumatic pains.

Nervousness—The chief nervous symptoms are irritability, rather incoordinate movements up to the extreme type of chorea, which may be likened in many ways to an alcoholic intoxication.

Cardiology

An entire evening could be devoted to the cardiac symptom. Cardiology cannot be looked at in the child in the same manner in which we do with the adult. With an inflammatory heart disease developing, the symptoms are less pronounced and the physical signs frequently of greater significance. Often your only finding will be a murmur systolic in character. I know that systolic murmurs have lost a great deal of their clinical importance and in the adult this may be true but is not so in the child. The discovery of a murmur in a child, previously known not to have had a murmur and presenting the symptoms that I have briefly outlined here, should be considered as a real cause of alarm. Experience shows that these murmurs may be at first transitory, later becoming more permanent. A slight systolic murmur is frequently only the onset of a severe myocarditis, pericarditis, or mitral stenosis. To ignore the systolic murmur and feel that it is just one of those cardio-respiratory, hemic or exo-cardial murmurs is often fraught with danger.

There is little doubt as to the seriousness of the diastolic and the presystolic murmur and these murmurs are seldom mistaken for the cardia or exo-cardial murmur.

In closing let me add that there is an extraordinary, unbelievable power of recovery in the child heart once the systemic infection is at an end. To know when this infection is at an end, and not just smoldering and in a quiescent state, is still a problem that will test you knowledge of childhood rheumatic infections to the utmost.

It would seem that several rules can be adopted which are helpful: 1. A pulse consistently below 100 during waking hours. 2. A temperature below 99. 3. A steady gain in weight. 4. A sedimentation rate below 10. (We use the LINZENMEIER-RAUNERT micro-method.)

I will say little in regard to treatment except to state that relapses do not seem to occur as frequently if during, and after, each recurrent upper respiratory infection the child is given 8 to 15 grains of aspirin, daily for one month.—ROBERT A. BLACK, M. D., in *Miss. Valley M. J.*, Chicago, Ill.

Whooping Cough Vaccine

Whooping cough vaccine is effective in preventing pertussis in many instances. In Iceland, an epidemic of whooping cough spreads across the island every 6 to 7 years and every person is exposed, so it is relatively easy to determine the effectiveness of vaccination.

	No pertussis	Mild	Medium	Severe pertussis
Vaccinated	28%	50%	17%	5.3%
Unvaccinated	4.9	49	34	11.5

—NIELS DUNGAL, M.D., in *J.A.M.A.*, May 20, 1944

The G.P. Discovers T.B.

By NELSON MERCER, M.D.,* *Blacksburg, Virginia*

THAT the majority of tuberculous patients are moderately or far advanced when admitted to sanatoria for treatment, is a fact accepted by all engaged in this specialty.

This has also been noted by the writer in several states in which he has worked, regardless of their location and organization to combat tuberculosis.

Earlier diagnosis is essential to lower the morbidity and mortality rates of tuberculosis, and to reduce the period of sanatorium treatment.

General medical practitioners are the front line troops in the fight against the great white plague, which, contrary to all publicity, is still our worst killer of persons between the ages of 18 and 35. General physicians should always suspect its presence and utilize all diagnostic procedures available for each patient under observation.

This can be accomplished by annual surveys of high-school children and their teachers, factory workers, employees in every line of business, and the professions, including all contacts exposed to active cases of the disease. The annual early diagnosis campaign of the National Tuberculosis Association also discovers numerous active cases throughout the United States.

X-ray

An X-ray of the chest is considered the most important factor in making an early diagnosis of pulmonary tuberculosis, regardless of the findings on physical examination. (See Fig. 1) Each person suspected of having the disease should be X-rayed on the first visit to the physician's office or clinic. For this purpose, the standard size 14 x 17 inch celluloid or paper films may be considered more reliable than the 35 mm. or the 4 x 5 inch photofluorographs. However, if the microfilms are the only ones available, they should be used by all means.

High School Students

Skin testing should be done on all high school children, and positive reactors X-rayed at once. All junior high-school pupils should be X-rayed as a routine precaution at that critical period of adolescence with the mental and physical strain of study, athletics, and social activities now considered so necessary to development.

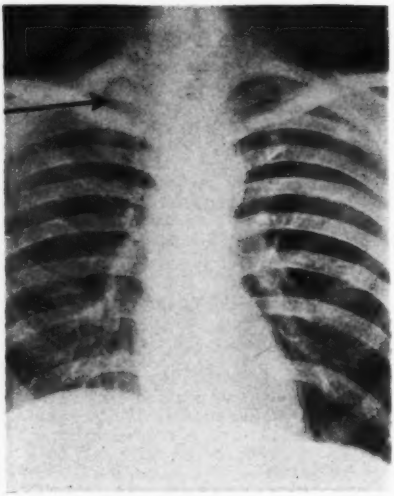


Fig. 1. Radiograph of chest with arrow indicating an early infiltration in the right apex above the first rib. There is also some thickening of the ascending branches on the left side with increased density in the hilar regions.

College Students

All college students should be required to undergo a complete physical examination, including chest X-ray films, upon entering their freshman year, and repeated whenever necessary. Another complete examination, with chest X-ray, should be done just prior to graduation from college and beginning their life's work in various occupations.

Wrong Diagnoses

This writer has been impressed by the number of new admissions to sanatoria with far advanced pulmonary tuberculosis who have been under treatment for months or years for so-called gastritis, enteritis, sinusitis, tonsillitis, laryngitis, bronchitis, asthma, otitis media and recurrent attacks of pleurisy, grippe, or pneumonia.

Patients frequently give this experience in their histories, and quite a large percentage state that tuberculosis was not diagnosed until they went to a tubercu-

*Fellow American College of Chest Physicians.

losis clinic or a hospital and were X-rayed as a routine procedure.

It would appear that all general practitioners and specialists in any medical or surgical field would at least be on the alert always to suspect the presence of tuberculosis in any of the conditions noted above, and determine definitely whether or not tuberculosis is the cause by having a chest x-ray, and sputum examination for tubercle bacilli made on the first examination of the patient.

A diagnosis of pulmonary tuberculosis, and any of its complications, would greatly aid the physician and the patient in their efforts to plan a program of treatment and make all necessary family, business, economic, and financial arrangements which are so essential to the welfare of the sick person and his relatives.

Indications for X-ray of the Chest

Certain characteristics of tuberculosis must be kept in mind to appreciate the indications for X-ray of the chest, namely, that the disease at its onset is frequently without symptoms, that early lesions and some moderately advanced, produce few or no abnormal physical signs, and that the extent and character of the lesions are often different from that which would be expected from other studies.

According to modern practice, therefore, X-ray examination is indicated in patients who present symptoms of the disease and in certain healthy people who may be selected according to tested principles.

Patients with Symptoms

Since physical examination may be quite inadequate to reveal the pulmonary lesion, X-ray films of the chest should be made of any one who presents suggestive symptoms. This includes patients with chronic cough, hemoptysis, pleurisy, and unexplained impairment of their general condition as indicated by loss of weight, undue fatigue, afternoon temperature of 99 to 99.6, and functional disturbances such as anorexia, nervousness, and indigestion.

Any extra-pulmonary tuberculous lesion always demands X-ray of the lungs as the source is usually found there. It is the usual experience that patients who report to a doctor because of symptoms of tuberculosis have moderately or far advanced pulmonary tuberculosis when X-rayed as a routine procedure.

Apparently Healthy People

About one percent of apparently healthy people have shown tuberculous lesions when surveyed by X-ray. More than 80% of these are in the minimal stage of the disease. The advantage of this procedure is obvious. Certain groups of the population are usually selected for such surveys and include the following: 1. All volunteers and selectees for the armed forces of our country. 2. Persons who have been exposed intimately, such as hospital personnel. 3. Adolescent children and young adults who react to tuberculin and who may be in contact with a tuberculous patient. 4. High school and college students as they represent the age when active pulmonary tuberculosis often is first discovered. 5. Pregnant women as a part of the prenatal physical examination. 6. Groups of industrial employees as a part of the preemployment and periodic physical examinations. This is especially important among unskilled laborers and those exposed to harmful dusts. 7. Residents of the community of a low social-economic status. Tuberculosis has been found in as many as 5% of such groups.

Home Treatment

Worthy of comment, also, is the rather frequent advice to tuberculous patients to take the cure at home. This is, of course, almost impossible, due to the activities of the family, inquiring neighbors and visitors, ringing telephone and

Differences Between Primary and Reinfection Types of Pulmonary TB

Primary Type.	Reinfection Type.
(Initial Lesion)	
A single parenchymal lesion in lower or mid-lung field and in the hilar lymph nodes. (Not always demonstrable.)	A parenchymal focus usually in upper third of lung without gross involvement of hilar lymph nodes.
Prevalent Type of Retrogression.	
Encapsulation, calcification, ossification.	Resorption, fibrosis and occasionally calcification.
Prevalent Type of Progression.	
Lymphatic and hematogenous dissemination spread by continuity. (May not be evident in adults.)	Bronchogenic spread, caseation, liquefaction and excavation.
Histologic Characteristics.	
Fibrotic encapsulaton of caseous or calcified foci with or without calcification.	Fibrous organization of non-resorbed infiltration, caseation and excavation.

door bells, and so forth. Moreover, no tuberculous patient with positive sputum should remain at home where he is a constant source of infection to his family and friends, in short, a public menace to the health of the community.

T. B. Conferences

A plan, with the purpose of interesting general medical practitioners in the early diagnosis and treatment of tuberculosis in their patients, is worthy of trial in any community as it has been effective in several places, and operates as follows:

Monthly clinical conferences are held to which all the local medical practitioners are invited, to bring the data of any patients who present difficulties in diagnosis and treatment, and in whom tuberculosis is suspected or definitely diagnosed.

Each conference is conducted as a round-table discussion, and the attending specialists who are present, will render advice to the physician to help solve the problem his patient presents, after all data and findings have been considered by the various specialists on the panel.

This is considered one of the most promising developments in the campaign against tuberculosis of recent years, and it is hoped will serve as an incentive to other communities to increase the interest of general practitioners, for in their hands, largely, depends the ultimate solution of the tuberculosis problem throughout the United States.

Simple Artificial Insemination

PREVIOUS methods of artificial insemination have been difficult, traumatic and frequently unsuccessful until many attempts have been made.

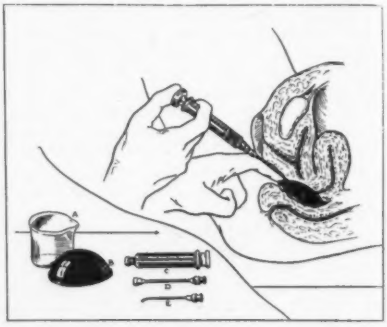
Borris Kornblith in the *New York State Journal of Medicine** suggests that the semen be injected into a vaginal diaphragm already placed around the uterine cervix. By this means, the semen will be held against the external os in a natural manner and will have a chance to penetrate into the uterine cavity (assuming that chronic cervicitis, a frequent cause of sterility, has been cured by previous cauterization).

The accompanying illustration depicts the exact method. "The cervex is wiped clean with sterile applicators, and the mucous plug removed as much as possible without injuring the cervical canal."

"A properly fitting, previously boiled diaphragm is inserted (boiling removes any chemical or powder from the rubber) with the cupped side up toward the cervix, and left in place for 10 minutes in order to assume body temperature and become coated with vaginal secretions."

"The spermatic specimen is obtained from the husband or donor in the office by manual manipulation and is ejaculated into a sterile glass beaker. It is permitted to stand for 5 minutes, so that its consistency becomes less viscid, then aspirated into a Luer-Lok 5 cc. syringe."

"The anterior lip of the diaphragm is



pried away from the anterior vaginal wall with the left index finger, being careful not to dislocate the diaphragm posteriorly. The needle extension is applied to the syringe and the semen injected into the cup of the diaphragm. The anterior rim of the diaphragm is pushed behind the symphysis publis to make it secure. The patient is permitted to get up immediately, cautioned not to take douches and to return in 24 hours for removal of the diaphragm. The procedure of insemination is repeated three times, on the twelfth, fourteenth and sixteenth days after the beginning of menstruation. It may be necessary to use a soft, silver cannula to introduce spermatic fluid into the cervical canal."

In these cases, the husband proved to be a successful donor in three of four patients.

Such a procedure avoids any chance of introducing infection by forcing material into the uterus. It is simple and inexpensive.

* Jan. 15, 1944.

Cardio-Roentgenography in Organic Heart Disease

By HOWARD CURL, M.D.,* *Memphis, Tennessee*

ORGANIC heart disease ranks high as the cause of morbidity and mortality in American life. Means and methods of making an accurate diagnosis, before irreparable damage has been done, have occupied the thoughts and talents of the leaders in the medical profession. It seems reasonable and logical to expect roentgenographic methods to contribute much to cardiac studies.

Roentgenography, properly used, properly interpreted and properly evaluated, offers much, not only in detecting early myocardial changes, but in giving very reliable information as to the progress of the condition. This information is of especial value to the men in general practice, who, though they may see relatively few cardiac cases, see them early, and who, collectively, see most of the conditions from which cardiac lesions arise and see them at the time when a correct diagnosis is most essential and also most difficult to make.

Any physician with a cardiac case who has been disappointed or misled by roentgenographic studies has either expected or been promised too much and has received too little, too late; the work has been carelessly and inaccurately done or the interpretations have been based on erroneous assumptions.

Historical

Schott in 1897 measured the cardiac shadow on x-ray plates, and Moritz in 1900 constructed and used the orthodiascope for tracing, fluoroscopically, the cardiac outline. Each collected data of patients free of cardiac pathology, i.e., normal cases. Date on height and weight were also obtained. An attempt was made to correlate these with cardiac size and thus establish an *average* heart size for a given height and weight.

Since those early beginnings many men, at home and abroad, have studied the normal heart roentgenographically, either with teleoroentgenographic films or with the orthodiascope. The old, the middle aged and the young, the tall and the short, the fat and the lean have been studied and tabulated. The frontal silhouette area, and transverse diameter, the cardiac volume have been determined, and even the volume output per cardiac beat has been estimated. These data have been assembled, *averages* determined and tabulated so that it is possible to *predict* 1, 2, 3 the size of the heart whether in a demure little lass of sweet sixteen or the "bull of the species."

The above is not said in levity. This work has been important; it is fundamental. It has contributed much to our knowledge of the normal heart and its relation to the body as a whole, and has made possible the differentiation between the normal and pathological. To attempt to fit every heart, however, in patients with a given height and/or weight to a "normal average" is as impossible as it is to force every foot into the same shoe. Considered singly or individually there is no such thing as an "average" heart, but for each must be established a normal of its own. This is well demonstrated in Table I.

A Study of the Normal

The data in Table I was obtained from a study of 25 Medical Students and 20 Student Nurses in the University of Tennessee. The films were made with the subject seated, the body inclined forward 20 degrees (Bardeen method) from the perpendicular and with the front of the chest and the points of both shoulders pressed firmly against the cassett. Care was taken that the face and knees pointed directly forward and that the vertebral column was straight. A two meter target-film distance was used. The tube was tilted 20 degrees from the horizontal and elevated to a point where the central rays would pass through the 6th dorsal vertebra. The kilo voltage was varied so that with a current of 50 ma. the exposure used in making the film would be long enough to include two complete cardiac cycles. The exposure was made while the patient held the breath in deep inspiration.

The heart measurements made were the right diameter and left diameter (measured from the mid line of the sternum) and the sum of these two, the total transverse diameter. In the last column of the table are given measurements from the prediction tables of Ungeleider and Clark.[4] Bardeen[5] has demonstrated that the transverse diam-

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TABLE I

Ht. = Height in inches; Wt. = Weight in pounds.

All heart measurements in centimeters.

R.D. = right diameter; L.D. = left diameter; T.D. = total diameter; P.D. = predicted diameter.

No.	Sex	age	Ht.	Wt.	R.D.	L.D.	T.D.	P.D.	+or—P.D.
22	F	21	65	115	2.7	6.2	8.9	11.3	+2.4
13	F	19	62	116	3.3	5.7	9.0	11.6	+2.6
23	F	18	65	118	3.5	6.3	9.8	11.4	+1.6
43	F	25	68	123	4.1	5.8	9.9	11.4	+1.5
14	F	20	64	120	2.9	7.4	10.3	11.7	+1.4
21	F	22	62	119	3.8	6.6	10.4	11.9	+1.5
2	M	21	66	128	3.2	7.3	10.5	11.8	+1.3
40	F	20	64	114	4.4	6.2	10.6	11.3	+0.7
27	M	20	71	136	5.0	6.3	11.3	11.7	+0.4
24	F	20	61	112	3.8	7.6	11.4	11.6	+0.2
26	F	26	61	123	4.4	7.0	11.4	12.1	+0.7
15	F	19	65	125	4.2	7.2	11.4	11.7	+0.3
41	F	26	65	110	3.5	8.0	11.5	11.0	−0.5
20	F	18	65	121	4.5	7.0	11.5	11.6	+0.1
42	F	18	66	125	3.0	8.6	11.6	11.7	+0.1
25	F	18	63	126	3.3	8.3	11.6	12.0	+0.4
32	M	21	68	138	4.2	7.4	11.6	12.1	+0.5
11	M	23	68	152	4.8	6.8	11.6	12.7	+1.1
45	F	18	65	126	3.8	7.9	11.7	11.8	+0.1
17	F	23	58	120	3.3	8.4	11.7	12.0	+0.3
10	M	21	67	157	5.2	6.5	11.7	13.0	+1.3
44	F	21	62	120	3.7	8.1	11.8	11.8	0.0
18	F	19	66	138	4.4	7.4	11.8	12.2	+0.4
12	M	21	70	143	4.6	7.2	11.8	12.1	+0.3
38	M	25	70	140	4.5	7.4	11.9	12.0	+0.1
36	M	20	71	162	3.6	8.3	11.9	12.8	+0.9
3	M	21	71	135	4.7	7.3	12.0	11.7	−0.3
35	M	20	71	140	4.3	7.7	12.0	11.9	−0.1
29	M	20	70	164	4.5	7.5	12.0	13.0	+1.0
28	M	21	74	160	3.9	8.5	12.4	12.5	+0.1
16	F	20	66	125	4.5	8.0	12.5	11.7	−0.8
30	M	21	70	142	4.5	8.0	12.5	12.1	−0.4
31	M	20	72	170	5.0	7.5	12.5	13.0	+0.5
5	M	18	69	140	4.4	8.2	12.6	12.1	−0.5
33	M	21	69	150	4.6	8.4	13.0	12.5	−0.5
4	M	19	72	160	5.0	8.0	13.0	12.6	−0.4
7	M	21	67	163	4.6	8.5	13.1	13.2	+0.1
19	F	18	65	140	6.0	7.2	13.2	12.4	−0.8
6	M	19	73	180	5.1	8.8	13.9	13.3	−0.6
37	M	20	72	167	5.3	8.9	14.2	12.9	−1.3
1	M	21	70	165	5.0	9.3	14.3	13.0	−1.3
8	M	22	67	170	4.7	9.6	14.3	13.5	−0.8
34	M	22	69	165	3.9	10.6	14.5	13.1	−1.4
39	M	21	74	200	5.0	9.6	14.6	14.0	−0.6
9	M	20	68	190	5.8	9.1	14.9	14.2	−0.7

eter of the cardiac shadow thus made will exceed by 3 per cent the actual transverse diameter of the heart; i.e., to obtain the true diameter of the heart the transverse diameter of the teleoroentgenographic shadow must be reduced by three per cent. For reasons which will be explained later no correction has been made for the measurements here given.

In comparing the total transverse diameter (T.D.) with the predicted diameter (P.D.), it is interesting to note that in the cases having a diameter less than 12.0 cm. (with the exception of 41 and 44) the predicted is greater than the measured diameters. In cases having a diameter of 12.0 cm. or more (except 29, 28, 31 and 7), the predicted is smaller than the measured diameters. In cases 22 and 13, the predicted diameter is 2.4 cm. and 2.6 cm. respectively greater than the measured diameters.

In other words, if compared with a "normal average" or prediction table, the cardiac shadow in these two cases would have to increase more than one inch in transverse diameter before being considered pathological, whereas cases 16, 19 and 8, measuring 12.5, 13.2 and 14.3 cm. respectively would be considered pathological with an increase above normal of 8 mm. (about ⅜ of an inch).

Other comparisons which the reader can make for himself are of equal interest. To facilitate this study and yet to conserve space, I have grouped some of these in Table II. It is generally stated that the female heart is relatively smaller than the heart of the male. Please note, however, that when height and/or weight are considered, this is not borne out by the actual measurements, at least in the class used in this study. Sufficient work has not been done, however, to state with positiveness what degree of accuracy in measuring the total transverse diameter may be expected on re-examinations of any particular normal heart.

From my own work, it would seem that if care is taken in all of the steps that enter into the making of the cardiac film a variation of 1 mm. (0.1 cm.) should be significant. Certainly the error should not be greater than 2 mm. If this be true, it becomes quite obvious that to compare a given cardiac measurement with a "normal average" or prediction table may lead to erroneous and misleading conclusions. The sooner we appreciate this fact the fewer disappointments we will have and the less criticism of cardio-roentgenography.

Each Heart Its Own Normal

If the foregoing be true, it would seem imperative that for each heart under study we must establish its own normal. This suggestion is not as impossible as it may sound on first thought. Organic heart lesions do not ordinarily develop overnight. Usually a period of illness or a few days or few weeks precedes the cardiac involvement. Physicians are well aware of the conditions

TABLE II

Height or weight the same with more than 1 cm. difference in heart size

No.	Sex	Age	Ht.	Wt.	R.D.	L.D.	T.D.	Difference
22	F	21	65	115	2.7	6.2	8.9	
41	F	26	65	110	3.5	8.0	11.5	+2.6
21	F	22	62	119	3.8	6.6	10.4	
44	F	21	62	120	3.7	8.1	11.8	+1.4
2	M	21	66	128	3.2	7.3	10.5	
16	F	20	66	125	4.5	8.0	12.5	+2.0
31	M	20	72	170	5.0	7.5	12.5	
37	M	20	72	167	5.3	8.9	14.2	+1.7
14	F	20	64	120	2.9	7.4	10.3	
44	F	21	62	120	3.7	8.1	11.8	+1.5
15	F	19	65	125	4.2	7.2	11.4	
16	F	20	66	125	4.5	8.0	12.5	+1.1
38	M	25	70	140	4.5	7.4	11.9	
19	F	18	65	140	6.0	7.2	13.2	+1.3
11	M	23	68	152	4.8	6.8	11.6	
33	M	21	69	150	4.6	8.4	13.0	+1.4

which are most likely to involve the heart. Probably first on such a list would be acute articular rheumatism or rheumatic fever. Others, without attempting to list in order of importance, would include pneumonia, typhoid, diphtheria, scarlet fever and other acute infectious fevers, hyper- and hypo-thyroidism, focal infections, pregnancy and labor, surgery, and especially surgical shock.

In these and other conditions where organic heart involvement is a probable sequela, the physician with foresight will procure the normal cardiac measurements before pathological changes have taken place. The cost of such a film is insignificant when compared with its value should organic heart involvement supervene.

It may happen that in focal infections and other conditions of an insidious nature, it is the cardiac symptoms which bring the patient to the physician or the physician to the patient. In such cases, there is no way of knowing that the heart has or has not already undergone enlargement. A film taken at this time, however, will enable the physician definitely to determine, with subsequent examinations, any future enlargement.

The establishment of such normal measurements for the individual heart has prognostic as well as diagnostic value. Not only can the amount of enlargement but also the regression of the cardiac outline following adequate therapy be determined.

Meek[6] has demonstrated that the physical factor responsible for cardiac enlargement is increased interthoracic venous pressure. There is no practical method of determining inter-thoracic venous pressure. Such information is of value in diagnosis, treatment and prognosis of cardiac involvement and this in turn can be determined with a considerable degree of accuracy by properly made, measured and interpreted cardioroentgenograms.

Technique

Two methods have been used in this country and abroad in making cardiac studies, either the teleoroentgenographic 2 meter target film distance or the orthodiagraphic, i.e., fluoroscopic tracings. For the study of the normal or the ambulatory cardiac case, each method has its proponents and each has contributed its share to the accumulated statistics.

For the study of the individual cardiac case as proposed in this paper, there is no place for the orthodiagraph; the roentgenogram or film, therefore, becomes a must. While the 2 meter (teleo-roentgenographic) target-films distance is generally used and should be used if the measurements are to be compared with published data, in setting up a technique for the study of individual hearts it is neither necessary to maintain this distance nor to correct the cardiac shadow for size. One is not interested in comparing the size of this heart with the size of any other heart. One is interested only in being able to compare the shadow of a heart made at one time with the shadow of the same heart made at another time.

With a rigid technique and meticulous attention to details, one should be able to compare such films and to state definitely that the heart shadow has increased or that it has decreased in size since the previous examination. In setting up such a technique it must be remembered that each case is an individual entity. No two need be, perhaps cannot be, handled in the same way. In one case, the patient may be able to stand, another to sit and yet another may be unable to do either. The recumbent patient may be either prone or supine. The target-film distance may be 2 meters, one meter or less than one meter. *But for each patient, each step in the production of the film must be exactly duplicated for each and every subsequent examination made on the same patient.*

Meek[6] has demonstrated a definite relationship between pulse rate and cardiac size. It is essential, therefore, that if the pulse rate is rapid from exertion the patient be allowed to rest until rate is near normal before making the roentgenogram.

As a skeleton technique I would like to enumerate these steps as follows:

1. Position of patient in relation to film.

2. Target-film distance. May be any convenient distance.

3. Stage of respiration. This can be much more exact if suspended at end of deep inspiration.

4. Exposure must be long enough to include one (better two) complete cardiac cycles.

5. Correction of shadow for size. Not necessary as it offers more chance for error. Of course if done on one it must be done on all subsequent films of the same case.

6. Do not trust to memory. Adequate notes should be made and filed with films so that each of the above steps

may be exactly duplicated at each and every subsequent examination on the same patient.

Fluoroscopic Studies

The value of the fluoroscope in cardiac studies is directly proportional to the experience of the observer. Much information can be obtained in this way that cannot be obtained by the roentgenogram alone. The excursions of the diaphragm, the diaphragmatic border of the heart, the pulsations of the various chambers of the heart and of the great vessels are all a part of the diagnostic and prognostic picture. Oblique and transverse views of the thorax, preferably fluoroscopic, frequently give most important information. No cardiac study should be considered complete without careful and sometimes oft repeated fluoroscopic observations.

Conclusions

1. In the cardio-roentgenographic studies of an individual patient prediction tables of cardiac size are not only valueless but often misleading.

2. To be of value clinically, there must be determined for each heart its own normal measurements.

3. In every case of illness in which organic heart disease is a frequent sequela, a normal cardio-roentgenogram should be obtained early in the disease before cardiac enlargement has taken place.

4. By following a rigid technique, cardio-roentgenography may be a valuable aid in the diagnosis and prognosis of organic heart disease.

5. No cardiac study is complete without careful fluoroscopic observation.

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Repair of Episiotomy

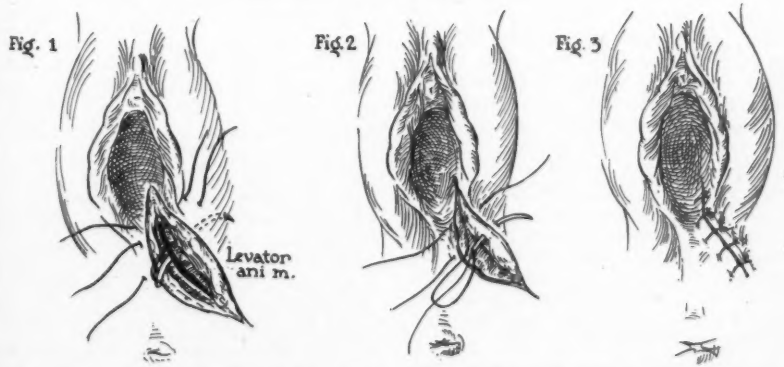


Fig. 1. *Correct method* of repair of episiotomy. The needle is passed out widely and deeply into the tissues of the labia and the levator ani muscle so that tying of such sutures will bring together strong reinforcement of the pelvic floor.

Fig. 2. *Incorrect method.* The needle is suturing only skin and subcutaneous tissues, thus leaving a weak pelvic floor.

Fig. 3. *Suturing* the skin to close the episiotomy.—(Dr. LaForge of Buffalo, New York).

Patriotism and Pseudo-Patriotism Among Discharged Soldiers*

(Psychosomatic Medicine)

(Abbreviated)

By B. LIBER, M.D., F.A.P.A., *New York, N. Y.*

THE soldiers discharged from the Army because of physical or mental disability are, of course, through with military service. If, in spite of that, many of them are strongly desirous of serving, either sincerely regretting their dismissal or insisting on readmission, their claims must carry conviction. After their discharge, we often discover their past efforts to be recruited at the time of induction and their concealment of affections and infirmities in order to serve at any price.

Some psychiatrists or psychologists, fortunately not the majority, are inclined to be skeptical. A few of them may even enjoy analyzing every sentiment and revealing its underlying causes. Perhaps for them there is no such thing as patriotism. There is no action that could not be explained and interpreted, or mis-explained and misinterpreted, in a psychological way. Every detail in our behavior, every one of our motives can be dissected and made to look prosaic indeed. There is, for instance, the fact that for many service men the Army represents a sort of huge father who takes them under his wings, who assumes their worries and, while disciplining them, also frees them from the difficulties of life. Or there is the need for change, romanticism and adventure, all vivid in childhood and adolescence, but persisting in many of us, at all ages. Perhaps, again, a tendency to excessive exhibitionism may be found at the bottom of some forms of patriotism. But, although all altruism is based on egotism, it is still an unselfish sentiment. Nor can dry reasoning detract from the existence of feelings which we all honor as patriotism.

However, while some men are inspired by true patriotic impulses, the motives of others are either spurious or related to their abnormal mental states; that is, they are pseudo-patriotic.

Following are some examples of both kinds, beginning with those led by false patriotism. They are all taken at random from the cases seen at the Rehabilitation Service for the discharged soldiers mainly, but also from other sources.

Pseudo-Patriotism

A man with an old, chronic ankylosis and stiffness of the left wrist, impairing his motions to a certain degree, had acquired this condition after an injury early in life. He was frantic with the desire to be accepted by his draft board and the medical examiners. The boy finally entered the Army but he was unable to do all the work assigned to him and so his defect was discovered and he was discharged. Downhearted and depressed, he confessed that his insistence to join the Army was due to "his girl." It seems that she, knowing of his childhood accident and shortcoming, had taunted him and dared him to be admitted into the service.

An asthmatic, smart-alecky, but ignorant, boy succeeded in being accepted into the Army with the definite idea that it would be easy for him to convince the doctors later that he had acquired his illness in the line of duty, and so receive some sort of a pension.

Another boy, always unhappy at his parents' home, enlisted, not because he wanted to serve his country, but because he felt that the Army would give him excellent shelter and protection against those whom he called his enemies. He was found to be unadjustable and sent to a military mental hospital, from which he was discharged. He was perhaps one of those "heroes" whom Thoreau would have called "the cowards who run away into the war."

A manic case improved sufficiently to be paroled out of an institution. War,

*Paper presented before the *American-Russian Medical Society* of New York City—1943.

as a contributory factor, stirred him into a spell of elation and over-activity. He was not visibly ill, but restless. He did his utmost to enter the Army, never mentioned his sojourn at the hospital, and somehow fooled the examiners. This was a temporary deception, as his condition, under the least strain, was easy to recognize and so he was discharged.

In this case, the appearance was that of patriotic zeal, but in reality his eagerness to serve was nothing but a symptom of his mental disorder.

A not too bright person entered the Army with homosexual intentions. He began by bragging that he had to enlist to sacrifice his life. When asked about his intimate life, he lied vigorously and was able to deceive his examiner. Within a short time, he was caught in the act of trying to seduce somebody, tried, found guilty, punished, and then given a dishonorable discharge.

Let me note here that the intelligent homosexual men usually do everything in their power to avoid the Army, because they know that they will get into trouble.

Unbelievable as it may sound, some of those who claim to join the Army for patriotic reasons, are really low-down, but smart, professional gamblers, of the kind that always win. They join specifically to lure the inexperienced into games of "chance" in which they win the monthly pay and any other amounts in the possession of their so-called buddies.

Some good boys who actually enlisted to fight, have gone bad through boredom and disappointment when not sent to combat duty. They try to enliven their existence by drinking, stealing, and other vices.

The excessively protracted camp life has also dampened the original patriotic ardor of many men.

Several men, by resting, succeeded in concealing their cardiac murmurs. Others were more or less capable of overcoming their hypertension. Some did it because they sincerely wanted to serve, but others merely wished to convince themselves that their trouble was insignificant. They thought that their acceptance by the Army would be a proof thereof.

Patriotism

This brings us to the *bona fide* patriotic soldiers, whose number is legion and whose special mental states lead them to a deep and sincere desire to serve. Their feelings are often due to a pure, glowing love of country and they give themselves in a simple, silent manner, without boastful, arrogant or declamatory pretenses.

A young man who was normal when entering the service, although not showing any visible illness, could not withstand the work and lost weight rapidly. After a stay in the hospital, he was discharged and felt greatly distressed.

So did the soldier who was returned from a Pacific island as a malaria patient and with other complications, none of them being cured in spite of treatment.

A boy had what was called a "loose knee" due to an accident and a subsequent operation. After enlistment, his inability to perform all his duties betrayed him and resulted in discharge. I have yet to see a more unhappy person.

So was the ex-service-man who foolishly concealed his gastric ulcer until he became seriously ill in the service.

The same may be said about the man of twenty-seven who had pneumonia, followed by some complications, and was discharged. Feeling "perfectly well" he implored re-admission, but to no avail.

A boy of nineteen had been discharged because he became "nervous," after having been at sea forty-five days in succession, without seeing land. He was depressed, moody, sometimes irritable. He brooded and refused food. As soon as he set foot on firm ground he changed. Then he sincerely wanted to go back to service, but was rejected.

Another young man with a small exostosis of one femur was normal to all intents and purposes, but was unable to jump obstacles and to do other stunts. He was discharged and became sincerely heart-broken.

Nor could a boy suffering from nocturnal enuresis conceal his shortcoming, for long, and his discharge grieved him profoundly.

The same thing happened to a man with hemophilia.

One boy of twenty-two had a good job in a defense industry and his firm declared him essential. But nothing could swerve him from entering the Army. He felt extremely wretched when discharged, following a camp accident.

One case was of a boy whose ship

was torpedoed and whose raft, loaded with a number of other men, drifted for ten days on the Mediterranean, often amidst burning oil, before he was rescued. He had been wounded and a burn on one arm had to be healed before his discharge. He was still walking with difficulty, leaning on a cane, when he complained bitterly why he was not taken back.

A Frenchman, refugee from the battle of France, had rib fractures which protruded into the thorax, causing respiratory difficulties. In spite of that, he succeeded in entering our Army, only to be discharged within a few months. He promised himself to go back to France as soon as possible, to fight to free his country.

A young, energetic woman, who wanted badly to join the Wacs, was opposed by her parents. Disappointed and saddened beyond measure, she gave up the idea, but became mentally quite depressed and lost interest in everything. When her mother changed her mind and consented, the cure was at hand. Of course, one may argue that a person of this kind, who breaks down so easily, may be abnormal and may prove to be mentally unhealthy in the service. That may be so, but so far, after six months, no sign of disorder has occurred.

But the most beautiful case of genuine patriotism was that of a Western boy who had been discharged and sent back from New Guinea after having been there a year or so.

He was angry.

"Why can't I fight?" he said, "All my pals are there. I haven't done a thing for my country."

His lamentations might seem exaggerated, but he sounded true and sincere.

He compromised, at last, to a job in the merchant marine, because this seemed to him the "next best way to serve his country."

On examination it was found that both knees were badly swollen and he had attempted to conceal his illness which had been the cause of his discharge.

It is no use to go on. These cases of plain, but real patriotism are all alike and we meet them everywhere, among boys of all the nationalities, races and religions which constitute this nation.

Electronics in Modern Medicine

Research

TEST	INSTRUMENT	REMARKS AND ELECTRICAL CHARACTERISTICS
Heart potentials	Electrocardiograph	Input voltage nominally 1 millivolt. Must amplify at 1 cycle/sec.
Pulse rate	Cardiotachometer	Electronic amplifier. Times and records pulse surges.
Heart beats	Amplifying stethograph	Has microphone input. Must have good gain at low frequencies.
Blood pressure	Hemadynamometer	Balances blood pressure against a measurable air pressure.
Blow flow	Plethysmograph Electroarteriograph, etc.	One system uses photocell to trace color changes after dye is injected.
Mental-physical coordination	Psychosomatograph	Records muscular action currents or physical movements.
Mental reaction	Pathometer, psychogalvanometer, etc	Notes skin resistance change with external voltage applied by electrodes. Requires high gain stabilized direct current amplifier.
Muscular contraction	Electromyograph	Records muscular action currents or physical movements.
Nerve currents Brainwaves	Electroencephalograph Electroencephalograph	Sensitive high impedance amplifier with non-polarizing electrodes. Input voltage 5 to 100 microvolts. Must amplify at 1 cycle/sec.
Chest sounds	Amplifying stethoscope	Has microphone input. Sometimes used with oscillograph.

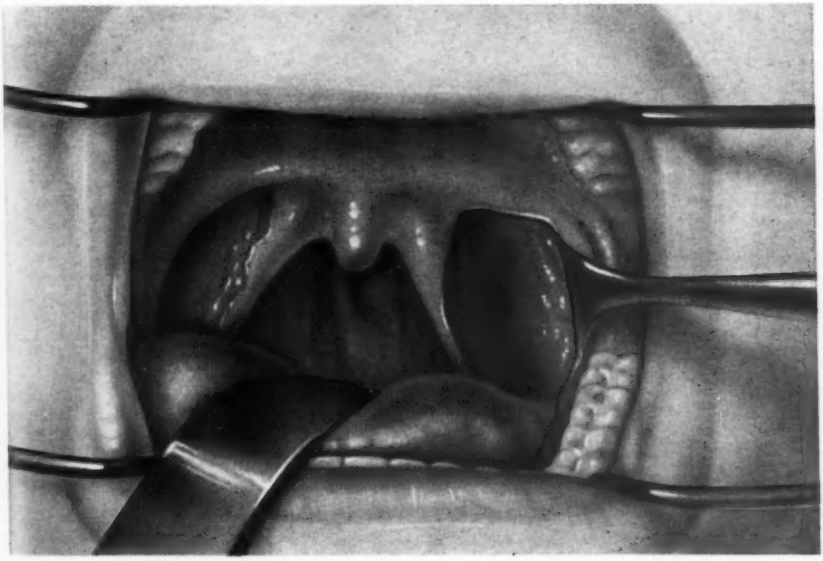
Management of Post-Tonsillectomy Hemorrhage

Furnished by WHITE LABORATORIES, INC., *Newark, New Jersey*

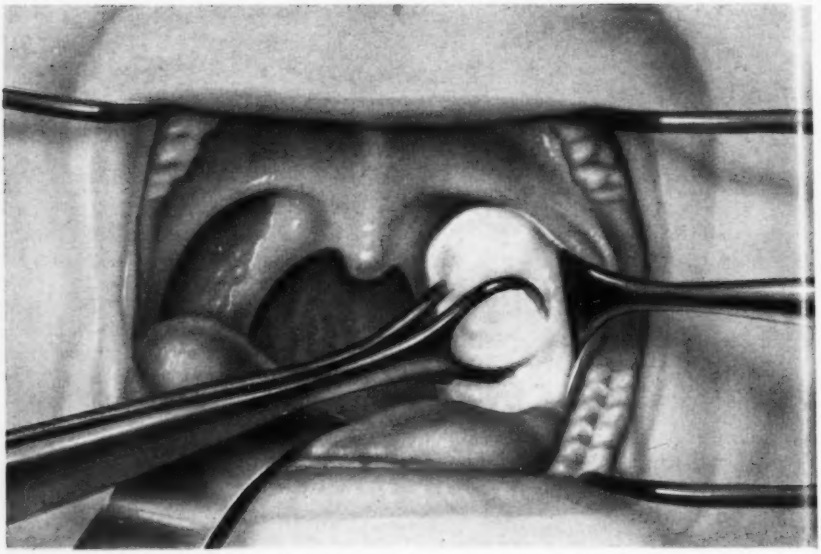
This most common post-tonsillectomy complication, clinically classified as *primary* and *secondary* hemorrhage, is encountered most frequently during the first week after surgery. *Primary* hemorrhage begins immediately after operation and is often associated with vomiting and retching; *secondary* hemorrhage occurs usually between the fourth and seventh postoperative days, when the slough is separating from the tonsillar fossa.

Preventive measures include proper preoperative care of the patient. In addition to routine physical examinations and laboratory procedures, bleeding and clotting times should be determined before operation and the patient questioned concerning a history of abnormal bleeding. Efforts should be exerted to prevent postoperative nausea and vomiting, noseblowing, hawking and coughing. Moreover, early postoperative diet should be designed to minimize mechanical disturbance of the operative areas.

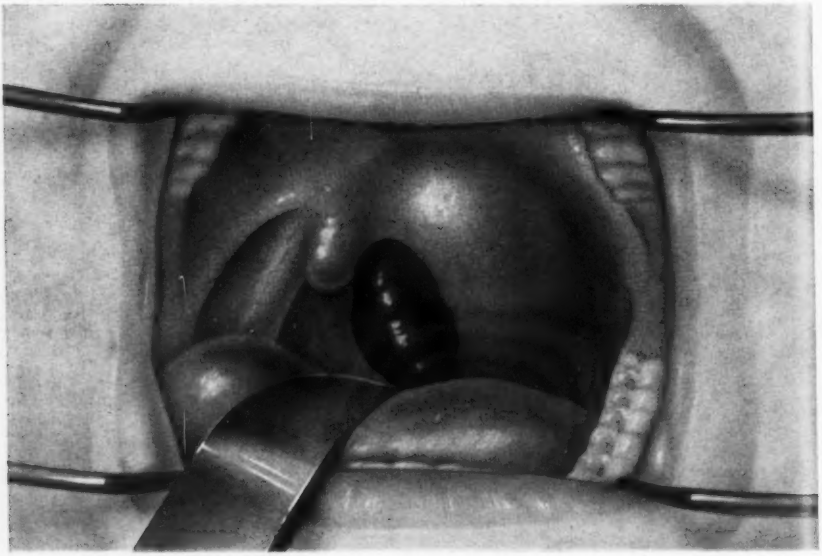
This collection of color-plates is one of a series of pictorial treatises conceived and executed by White Laboratories, Inc., as a contribution to modern medical practice.



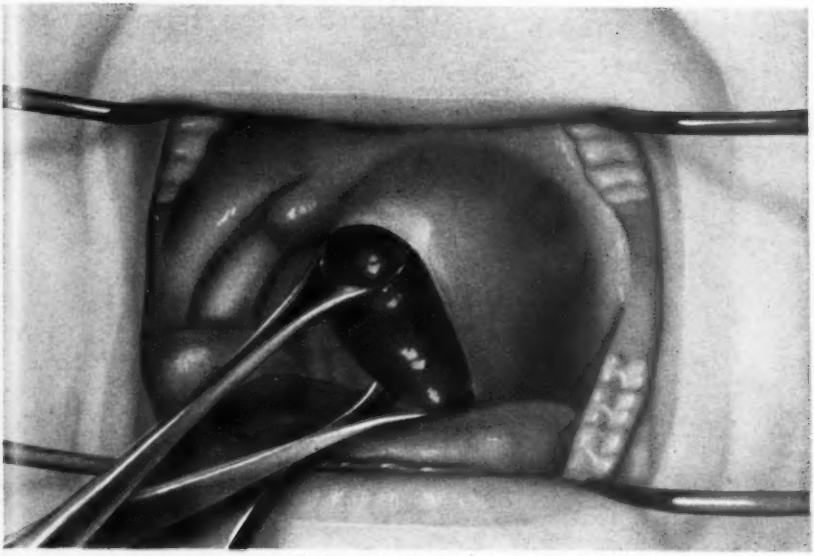
One. Postoperative view of tonsil bed or fossa. Note intact pharyngeal fascia.



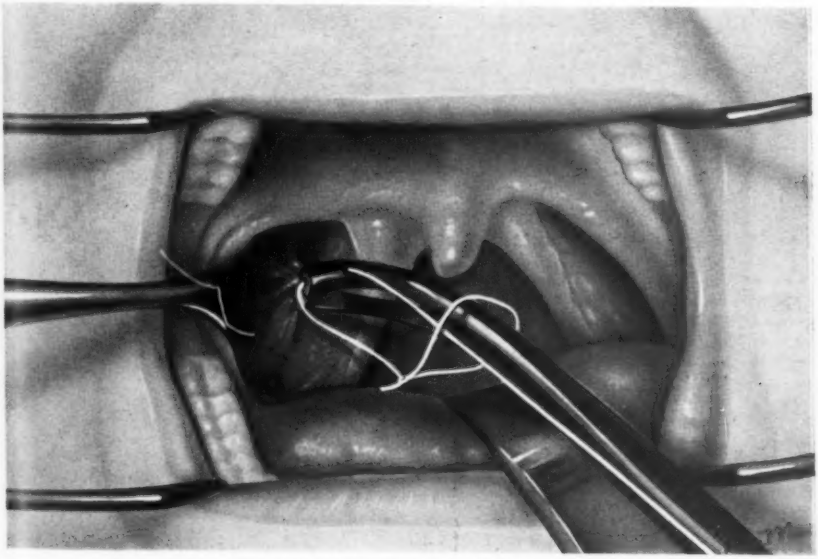
Two. Application of sterile cotton tampon controls bleeding by gentle pressure, provided the pharyngeal fascia is unbroken.



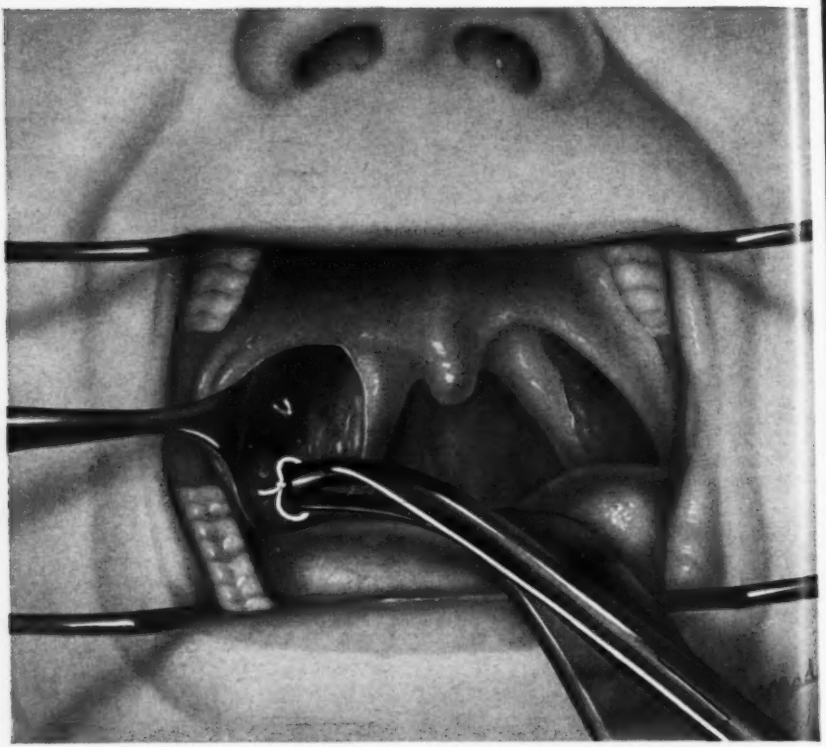
Three. Broken pharyngeal fascia is conducive to bleeding and clot-formation. Motion of clot allows slow hemorrhage to continue, frequently unnoticed until vomiting of blood arouses suspicion. This condition is referred to as concealed hemorrhage.



Four. The removal of clot is imperative in order to avoid infiltration of surrounding tissue with blood and to relieve pain invariably caused by clot.



Five. If pressure tampon fails to control hemorrhage, ligation of bleeding points is indicated. Special ligating hemostats render procedure simple.



Six. View of ligature in place. Loop of second ligature being tightened about cannulated hemostat.

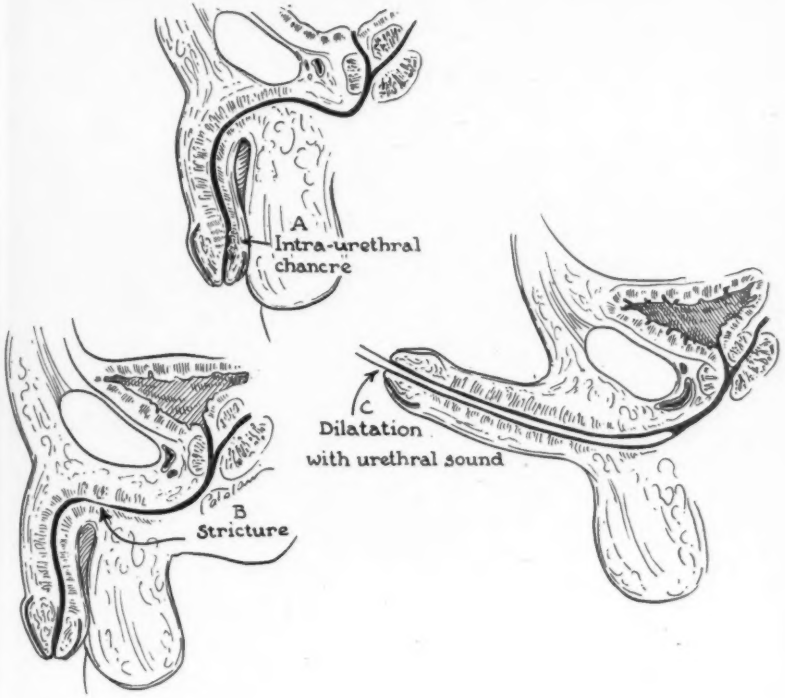
Causes of Urethral Discharge

There is a tendency to examine a specimen of urethral discharge and, after finding no gonococci, to make a diagnosis of non-specific urethritis.

Gordon Allison's article, Venereal Lesions of the Male Genitals (*Clin. Med.*, Oct. 1944, p. 180) called attention to other causes of urethral discharge. A chancre in the urethra is apparently more common than is generally realized. Lymphogranuloma venereum and trichomonas infections should be thought of.

Edgar Ballenger, also of Atlanta, Georgia, has long emphasized the importance of urethral stricture in causing urethral discharge and other symptoms (refer to Affections of the Urethra in *Clinical Medicine*).

This pictorial section briefly calls attention to these causes of urethral discharge:



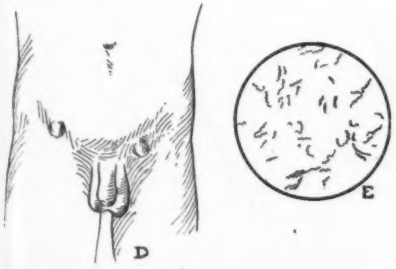


Fig. A. A chancre in the urethra.

Fig. B. A stricture in the membranous urethra.

Fig. C. The treatment of urethral stricture with urethral sounds.

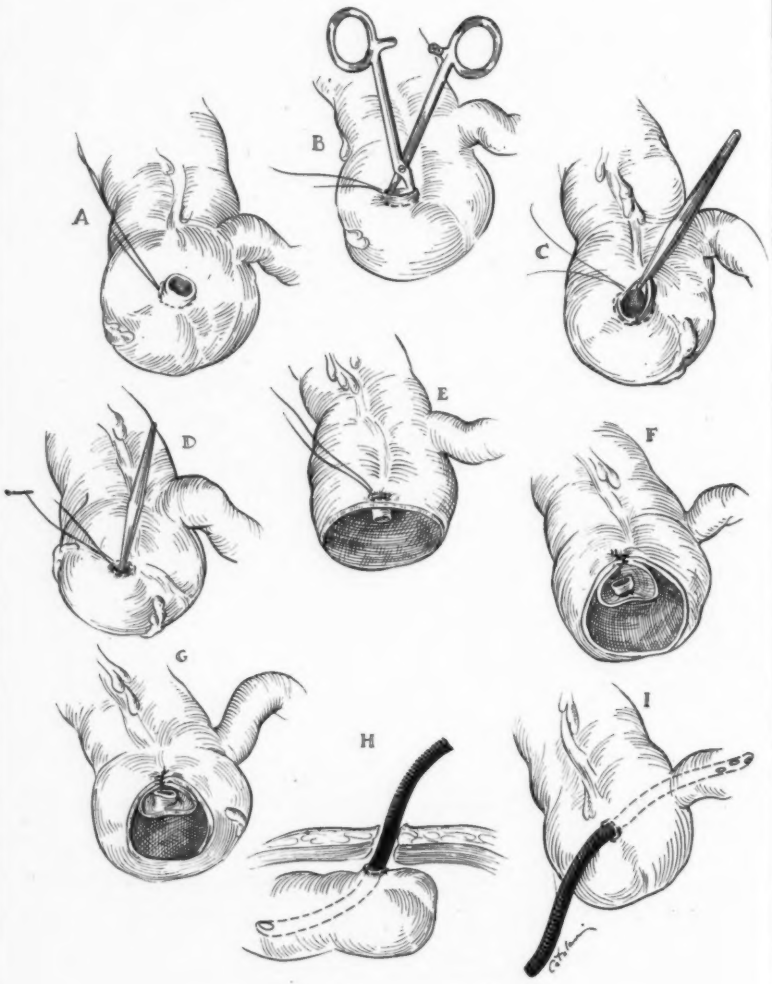
Fig. D. Lymphogranuloma venereum with buboes.

Fig. E. Trichomonas vaginalis (diagrammatic).

The Appendix Stump

Sketches Adapted From WESTERN JOURNAL OF SURGERY, OBSTETRICS AND GYNECOLOGY, *June 1944.*

Sketches A to E were first suggested by William M. Hayes, M.D., Hamilton, Ohio.



The Appendix Stump

Fig. A shows the wide open stump left after removal of the appendix; the purse string suture is in place.

Fig. B indicates the dilatation of the lumen of the stump by spreading apart a hemostat.

Fig. C portrays the grasping of the edge with a thumb forceps preparatory to invaginating the stump into the lumen of the bowel.

Fig. D depicts the inversion of the stump into the lumen, without ligation or crushing.

Fig. E illustrates the place of the inverted stump after the purse string suture has been tightened and tied. This is *true* inversion, the stump having been turned inside out. There is no pocket for pus to form in, no dead tissue such as follows crushing or ligation.

Fig. F. With the usual crushing, ligation and covering up of the stump (*not* inversion), the stump is left in a closed cavity made by the cecal wall. The stump points upward toward the purse-string suture. This mass is *not* absorbed, as roentgenograms taken months and years later show its presence, and surgical removal for the supposed cecal tumor has been reported in a number of instances (lately, by Mayo Clinic surgeons).

Fig. G. If the stump is not ligated, merely invaginated, again we find that it points upward against the cecal wall and not downward into the lumen of the cecum.

Fig. H. The simplest, safest method of disposing of the stump is to suture in a rubber catheter with one suture from the cecal wall to the edge of the incision in the peritoneum and the usual purse string suture snugly holding the catheter.

Fig. I shows such a catheter which has been inserted into the cecum, through the ileocecal vale and into the ileum. Such a tube acts as an excellent preventive of distention and "gas" pains. The illustration should show openings in both the cecal and ileal portions of the tube.

This latter procedure has been used on a number of seriously ill patients by the editor, with gratifying results. In no case, did the wound fail to heal within a few days after removal of the catheter. There was no worry about perforation of the stump, bleeding into the lumen of the bowel or later abscess formation.

Editorial

That "Male Menopause" Again

FOR many years, medical writers have struggled with the subject of the male climacteric. Much evidence, chiefly in the form of improved strength and virility as described by the patient, was offered but little objective evidence appeared that the male went through a period of regressive changes in both primary and secondary sexual characteristics such as occurs regularly in women and is evidenced strikingly by atrophy of the breasts, external and internal genitalia.

"In contrast, most elderly men exhibit no physical signs of testicular failure: Genitalia and secondary sex characteristics show no regressive changes, beard and bodily hair remain intact and bodily contours remain masculine."[1]

The symptoms attributed to decreasing male hormone production in males in middle life or early old age closely resemble those of psychoneurosis, a fact easily verified by observing the peculiar individuals who so often ask for treatment.

After spending a little time in a state asylum (viewing the patients, and not as one of them), the resemblance of senile patients to some of those with male climacteric symptoms seen in private practice, was noted. It may be of interest that electric shock therapy was very effective (almost specific) in relieving women between the ages of 35 and 50, and men aged 45 to 60, who were suffering from involutional melancholia[2], and their symptoms of depression, slowed thinking, and thoughts of unworthiness, having committed a sin or the uselessness of life. It may be that we are seeing borderline mental cases instead of endocrinologic patients. Alvarez of the Mayo Clinic has felt that all physicians overlook many abnormal patients who are not obviously insane.

Carl G. Heller and Gordon B. Myers of the Department of Medicine, Wayne University College of Medicine, Detroit, Michigan, have carried on a very thorough study[1] of normal men and of castrates. Their conclusions were:

There is such an entity as the male climacteric but it is *rare*. Proof of testicular failure was found in a group of patients by: 1. observing histologic signs of testicular atrophy or degeneration, in all cases subjected to biopsy of the testicle; 2. by finding increased amounts of gonadotropic hormone excreted in the urine (this is regularly found in castrates and men with primary gonadal failure). 3. Symptoms definitely resembling those of the female menopause were present, which disappeared when testosterone propionate was given and reappeared when placebos were given.

A tentative diagnosis can be made clinically: 1. The symptoms of true male climacteric resemble those of the menopausal patient much more closely than did those of the patient with normal testicular function, whose symptoms were usually those of psychoneurosis. 2. A past history of normal sexual function until a definite time, following which loss of potency, hot flashes and nervousness appeared, is very suggestive of true male climacterium. A diagnosis of psychoneurosis is more likely if the symptoms have been present throughout adult life or are brought on by emotional shock.

What Patients Should Not Receive Testosterone

1. The edematous patient should not receive testosterone as it tends to produce sodium retention, which results in water retention and increasing edema. 2. Any patient showing normal testicular function, because testosterone stops spermatozoa formation in normal males and may cause disuse atrophy of the normal interstitial (Leydig) cells. 3. A patient who may have carcinoma of the prostate or other organ, since the steriods have a carcinogenic action.

[1]Heller, Carl and Myers, Gordon: The Male Climacteric, *J.A.M.A.*, 126, 472-477 (Oct. 21, 1944).

[2]Personal communication; Edward Delehanty, Jr., M.D., Pueblo State Hospital, Colorado.

Therapeutic Test for Male Climacteric

If laboratory facilities are not available and if testicular biopsy (a simple procedure) is refused, a careful history should be taken to rule out psychoneurosis.

The intramuscular injection of 25 mg. of testosterone propionate is begun five days weekly for 2 weeks. If the patient shows no improvement, he is not deficient in male hormone (or more rarely, he will need such an excessive dose that treatment is financially impractical).

The patient who shows improvement may have experienced psychic relief or may be a case of male climacteric. If the symptoms recur after a period without treatment and are not relieved by placebo injections, it is a true case and may be treated by injecting 25 mg. three times weekly.

Use by Injection Only

Oral and sublingual administration of methyl testosterone has not proven effective. The implantation of free testosterone pellets subcutaneously in the thigh with a pellet injector will provide excellent control for periods of six to ten months (4 to 8 pellets weighing 75 mg. each are implanted at one time).

The Average Male

The male climacteric is a comparatively rare syndrome, affecting only a small proportion of men who live into old age.

✦

I Don't Want To—

"The reason so many retired men die mentally is because they stop doing everything they do not want to do. When they do that, they also stop growing. Growth is the result of assuming obligations and responsibilities. Retirement is too often a state of slow decay and death. The minds of too many retired men become stagnant pools." (Thomas Dreier).

What about the physician who goes into a specialty because he won't have to make night calls or to dodge obstetrics? (This does not refer to the man who is fascinated by one field and who honestly takes himself to it.)

What about the physician who does very few complete physical examinations and who cuts short his histories?

Sometimes, one becomes a wee bit disgusted with the physican who constantly complains about something that is intrinsic in the taking care of the sick. He fusses when a call must be made at supper time, he crabs about making a night trip to the office or to a delivery, he snorts when a patient wants to be seen after hours or on a holiday, he moans when a patient with the least taint of neuroticism enters the office, he complains about the work of writing patients' records day by day.

Life is made enjoyable by contrasts. Unremitting sunshine is as cheerless as persistent rain. When we do things that we do not want to do, there is a solid satisfaction, and the rest of it seems so much fun.

✦

Helping the Sterile Woman

We see sterile, or apparently sterile couples, running around to the offices of practitioners and specialists, anxiously asking for some hasty and magic method to produce fertility.

It is all right to search into the reason for this condition and to attempt to find a means of correcting the condition, if there is a genuine and sincere desire to have a child or children. It is undoubtedly a mistake to believe, as not only laymen but also many physicians do, that nearly all woman's ailments, somatic or psychic, may disappear through her giving birth to a baby.

If that were true, none of the prolific mothers would ever be ill . . . No child should ever be born unless desired and enjoyed for its own sake. None should be brought into the world to cure a selfish woman, especially if she is a sufferer from hysteria, psychoneurosis, paranoia or other troublesome and ugly mental disease. Instead of being healed, these mothers are more disturbed or confused as the situation becomes much more complicated. The hell into which the new creature lands is often indescribable and it would be a miracle if it escaped unscathed and without being mentally affected. (B. Liber, M.D. in Population and the War, Medical Record, February 1944).

To the woman who has had "nervous breakdowns" or who is made nervous by little routine incidents, a baby is a calamity. The least diarrhea or cold is the cause for alarm, telephone consultation with the physician and so on. The nausea of pregnancy is severe and the neighbors remark, "Poor Mrs. Jones always has such a time with her babies."

We can do little to aid those mental misfits who are already pregnant when first seen, except to encourage family planning by means of the safe period or other methods, but we can gently discourage those couples who feel that their deepseated marital discord, or the marked nervousness of the wife can be cured by having a child.

GRADUATE COURSE

Clinical Office Notes

(Miscellaneous)

The Diagnosis of Trichinosis*

By HOBART A. REIMANN, M.D.,
Philadelphia, Pa.

Twenty million persons in the United States have had trichinosis, as necropsy examinations show that 16 percent of persons have trichinosis infestation of the diaphragm.

Usually, these patients do not go to a physician as the symptoms are mild, with aching and pains throughout the body. *Most cases are atypical*, not textbook, in clinical signs and symptoms. Fifty diseases may be confused with trichinosis. The severity of the infection depends upon: 1. The amount of infected material eaten; 2. The number of trichinae; 3. The size of the patient; 4. The condition of the host including natural resistance, previous infection and allergic reaction.

Severe outbreaks are usually only found locally in small groups who do their own butchering (farmers, hunters eating uncooked bear) or who have eaten much infected meat from one hog.

Causes

Hogs
Salami
Sausage
Head Cheese } Less likely as they are made from many hogs

Signs and Symptoms

Fever, aching, edema of periorbital tissues and eosinophilia are symptoms of severe infection, but are rarely seen.

Gastrointestinal symptoms appear within 2 days of ingesting the pork. The skin test first is positive, between the fourth and tenth days.

Edema of the face appears on the 8th day and eyes may be painful. The fever is at its height on the 11th day, and the muscular symptoms appear on the 12th day. Eosinophilia begins on the 16th day and is most marked on the 21st day, and respiratory symptoms appear on the 18th day. The skin test is positive for life. The precipitin test is positive on the 30th day for 24 days or longer.

In the third month, the fever subsides. Myocarditis and neurotoxic symptoms may occur. A slow convalescence follows, which may take 6 months. Typhoid and influenza must be differentiated.

All the above signs and symptoms may be absent or all may be present.

The skin eruption must be differentiated from scarlet fever, measles, rose spots of typhoid, urticaria, or ecchymosis.

The eye symptoms may be severe. Atypical pneumonia may appear, which is characterized by involvement of the lung, the diaphragm, and toxemia.

Central nervous system involvement may result in a clinical picture resembling encephalitis, meningitis, poliomyelitis or brain tumor.

If repeated infections occur, periarteritis nodosa may develop.

Making the Diagnosis

Eosinophilia may be absent if other infections are present. The differential diagnosis must be based upon the fact that other patients have eaten pork, that edema and eosinophilia are present.

The precipitin test is unreliable unless much experience has been had. *The skin test is unreliable in isolated cases* (which is also true in undulant fever, tularemia, tuberculosis). If the test is strongly positive or is negative, it may be of value. The patient may have had trichinosis before, so a positive test does not mean that the present infection is trichinosis.

*Notes taken during Interstate Postgraduate Medical Association meeting, Chicago, Oct. 26, 1943 by R.L.G.

A biopsy of muscle may be readily undertaken under local anesthesia. Under a low power microscope, the section should be squeezed between slides and the grains will be seen, or it may be sectioned and studied or digested and the trichinae found.

There is no specific treatment for trichinosis.

◆

Thyroid Extract for Premenstrual Distress*

By A. P. Hudgins, M.D.

Charleston, W. Va.

Desiccated thyroid extract given to tolerance doses has been found very effective in relieving premenstrual distress in a high percentage of cases.

The medication should be continued over a period of time (many months), increased when possible and discontinued only if symptoms suggest toxic effects.

General intermenstrual improvement is usually reported by the patient also.

Professional Bldg.

◆

The Fallacy of Etiologic Roentgen Pulmonary Diagnosis

By George H. Stein, M.D.

Many articles have appeared in the literature concerning the bacteriologic and clinical aspects of primary atypical pneumonia, but relatively little has been written about the roentgenologic criteria of this disease. Sporadic attempts have been made to differentiate atypical pneumonia from the bacterial pneumonias solely by x-ray. In an effort to determine whether these pneumonias could be differentiated roentgenologically, we reviewed the records and x-ray films of several thousand cases of primary atypical pneumonia and bacterial pneumonia.

The following diagnostic triad was rigidly adhered to in the differentiation of these pneumonias clinically: (1) characteristic history, (2) bacteriologic evidence, and (3) the character of the white blood count. No case was included in the study that did not fulfill these requisites. An effort was made to correlate similar densities in both types as to size, position, and appearance.

As a result of this study, we are convinced that *primary atypical pneumonia and bacterial pneumonia cannot be distinguished from each other on roentgenologic grounds alone.* Therefore, these pneumonic lesions should be described in terms of density, size, location, and appearance, and should not be given an etiologic interpretation, since this is sure to result in a high percentage of inaccuracies.

*Author's summary of material published elsewhere.

Discussion

This editorial should be kept in mind when reading *any* roentgenologic report. The x-ray specialist who is a good clinician will not *make* a diagnosis, because he sees only one aspect of the diagnostic methods.

Recently in a service hospital, a critically ill sailor with high fever, rapid respiration and localized fine rales, was observed. A clinical diagnosis of lobar pneumonia was made, probably pneumococcus (the sputum report had not yet been returned), and Penicillin therapy was begun. The roentgenologist pointed out that the chest x-ray showed only vaguely defined infiltration into one lobe, made a definite diagnosis of "virus" pneumonia, and stated that no specific therapy would be of value. As he was commanding officer of the hospital, such an "opinion" almost carried the force of an order, but it was ignored.

Within six hours, pneumococci had been found in the sputum and dramatic clinical improvement had occurred in the patient, after two injections of Penicillin. Let those who advocate rigid governmental control think of such possibilities. Old men do not advance any science, yet they would be in charge. —R.L.G.]

◆

Heart Disease*

By Robert S. Berghoff, M.D.

Professor of Medicine
Loyola University, Chicago, Illinois

Coronary disease may be considered as a progressive cyclical process. Three stages may be assumed:

(1) Angina, which signifies coronary sclerosis, local or diffuse. Pain and difficult breathing usually indicates that a previous small coronary blocking has occurred. Angina is usually relieved by nitroglycerine or rest without medication. The prognosis of angina is much better than formerly considered. These patients may live 1 to 20 years.

(2) Coronary thrombosis may be diagnosed by the appearance of pain which persists for a long time, or strangulation, accompanied by shock. No relief is obtained from vaso-dilators and there is marked heart consciousness on the part of the patient. The prognosis is poor, but better than formerly considered. It

*Taken and abstracted by R.L.G., during the state Postgraduate Medical Assembly.

depends upon mental and physical strain to which the individual is subjected.

(3) Following coronary thrombosis, pain and difficult breathing on physical exertion or mental excitement is noted. The prognosis is bad.

Summary

A. Most patients with angina of effort have pathological coronary occlusion. We have experimental proof of this statement.

B. Coronary disease is a disease of senility, not of youth.

C. It is due to arterio-sclerosis and athero sclerosis.

D. It is progressive, relative and cyclic.

E. The pain and discomfort are due to insufficient blood supply to the heart muscle.

F. Shock is characteristic of coronary thrombosis and

G. Coronary anstomoses increase with age.

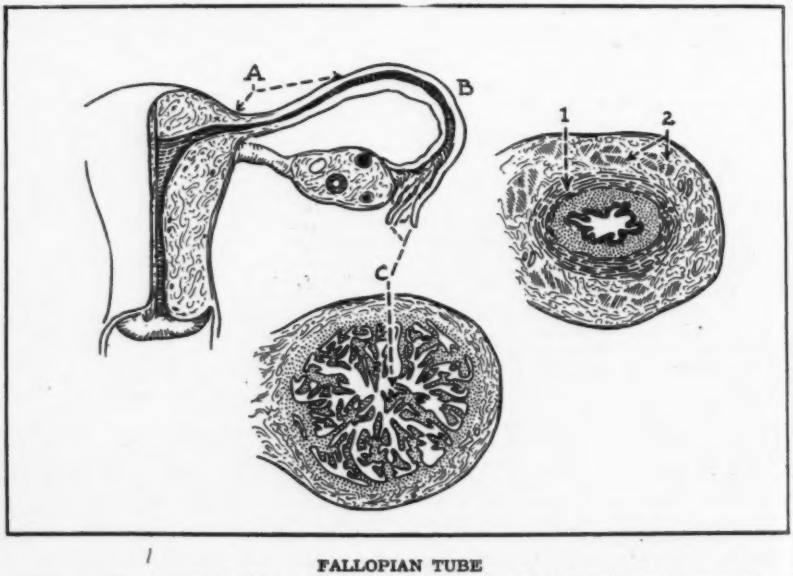
The Fallopian Tube

By ROLAND H. ALDEN, PH. D.,
Division of Anatomy, University of Tennessee School of Medicine, Memphis, Tennessee

The fallopian tube, suspended in the free margin of the broad ligament, is a trumpet shaped organ, averaging about 10 cm. in length. Its diameter decreases steadily from ovarian to uterine end. The organ is conventionally divided into a distal infundibulum, with its fimbriated margin, an ampulla, which leads insensibly into the relatively long and narrowing isthmus. The proximal portion of the isthmus, traversing the uterine wall, is termed the intramural portion, or pars interstitialis. The fimbria surrounding the distal opening (ostium abdominale), are of unequal length, one or two characteristically contacting the ovary.

A serous coat covers the outer surface of the organ and is a reflection of the pelvic peritoneum. Beneath this serosa is a thin, discontinuous layer of longitudinal muscle, overlying a thicker layer of circular muscle. The latter becomes progressively prominent as the uterus is approached. Separation of the two muscle coats is not distinct, and there is much loose connective tissue between the muscle fibers.

Lining the lumen of the oviduct is an epithelium, continuous with the outer serous coat. This layer is columnar, or pseudostratified, distally, but becomes lower as the isthmus is approached. It is thrown into numerous multiple folds,



FALLOPIAN TUBE

Cross section and longitudinal section of the Fallopian tube. A, Isthmus; B, Ampulla; C, Fimbriated end of tube; 1, Circular muscle coat; 2, Longitudinal muscle coat.

the frequency and height of these plications are greatest in the ampulla. Two types of cells are ordinarily identifiable; one is ciliated, the other, non-ciliated, is considered secretory. The ciliated cells are abundant on the fimbria and in the ampulla, but are less and less evident toward the uterine end of the tube. The height of the cells is said to vary with the menstrual cycle. The ciliary current is wholly abovarian (away from the ovary—toward the uterine cavity).

Activity of the muscular layers is greatest at the time of ovulation. While the activity of the cilia on the fimbria undoubtedly aid in effecting the entrance of the ovum into the tube, the contraction of the smooth muscle is probably the governing force in passing the egg through the oviduct. These contractions are not simple continuous peristaltic waves, but are localized, segmental contractions, which may at times reverse the progress of tubal contents. The function of the cilia is primarily one of clearance, discouraging the regurgitation of endometrial slough into the peritoneal cavity.

The fallopian tube is richly supplied with blood vessels and lymphatics. These become engorged at the time of ovulation and probably assist in the approximation of the ovary and oviduct by producing a type of tubal "erection."

✦

Feeding the Child*

By R. E. NUTTING, M.D.,
The Duluth Clinic,
Duluth, Minnesota

The fundamentals of dietary management in wartime remain the same as at any other time, but the problem in this country is to make better use of the foodstuff at our disposal, emphasizing intelligent selection and preparation of food, as well as becoming better informed about optimal dietary requirements.

The diet of the prospective mother, particularly during the last three to four months before term, definitely affects the amount of breast milk, the ability of the mother to nurse, and the general well-being of the infant.

It is felt by some that vitamin C should be given to the infant earlier than is our present custom. An infant, ten days to two weeks old, should receive an ounce of orange juice daily and when three months old, two ounces or more.

A concentrated preparation of D_2 or D_3 miscible with the formula, or a few drops of oleum percomorpheum, should be added to the infant's feeding during the second or third week of life. Later, one-half teaspoonful of high potency cod liver oil or one teaspoonful of less potent cod liver oil yields an optimal amount of vitamin D.

Solid food may be begun at the third month, starting with cereals of good vitamin and mineral content, following this in the next two to three months with sieved vegetables, egg yolk and sieved fruit, and still later with meat soups and certain starchy foods. This diet should include one and one-half pints of breast or cow's milk to supply dietary essentials.

During the transition period from the infant to the more adult type of diet, the relative caloric requirement becomes less. Consideration of this fact would obviate many appetite and nutritional disturbances.

In spite of the work done on methods of determining sub-clinical nutritional disturbances, there is still no adequate means of recognizing minimal nutritional deficiencies. However, the pediatrician knows the optimal daily dietary requirements and he should be the source responsible for dissemination of this information to his patients. The daily dietary essentials for the child are:

Milk—one pint to one quart
Lean meat—one serving
Eggs—one to two daily
Vegetables (Green or yellow)—two liberal servings
Fruit—two servings—one raw, preferably citrous
Butter or Oleomargarine with added vitamin A—one square
Cod liver oil—one teaspoonful or its equivalent in a vitamin D preparation
Additional foods to make up necessary caloric intake—whole grain or enriched bread, cereal products, sugar or fats
Iodized salt

*From Minnesota Medicine, Dec., 1943.

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Home Eye "Treatment"

By R. L. GORRELL, M.D.
Trinidad, Colorado

"Some form of eye treatment is necessary for the maintenance of health of the eyes," is the substance of a campaign begun by makers and sellers of medicines for the eye and by beauty operators. Physicians prescribe or furnish a medicine for the eyes and do not make clear that it should be used for a short time only. Tell the patient that he does not need an "eye wash," that nature provides a perfect lubricant and moderately germicidal fluid at all times.

CLINICAL NOTES and ABSTRACTS

Microfilm copies of any of the published papers here abstracted, up to 25 pages, may be obtained for 25 cents from Microfilm Service, Army Medical Library, Washington, D.C.

Contact Dermatitis: Diagnosis and Treatment

Contact dermatitis ranks among the four common diseases of the skin. It is of special interest at this time for the following reasons: 1. Early diagnosis prevents incapacitating dermatitis. 2. New synthetic and ersatz materials and wartime formulas of proprietary drugs have increased the number of these cases. 3. Exposure to sensitizers is more common because of the increase in defense industry workers. 4. Advertising campaigns during the summer months tend to stimulate sales of proprietary drugs, cosmetics and soaps. 5. The shortage of physicians may lead to self-medication and an increase in this type of case.

It is an eczematoid dermatitis occurring in certain individuals, localized at least in the beginning, and is characterized by an acquired epidermal sensitivity to occasional, repeated, continuous or accidental, known or unknown, external contacts with a vegetable, mineral, chemical or animal substance of simple or complex nature. The sensitizer is called a contactant. The skin reacts wholly out of proportion to the type or nature of the irritant. The substances are harmless in the sense that normal nonsusceptible persons may come in concact with them with no resulting cutaneous response.

The reaction does not occur until a variable latent period follows the first contact. This distinguishes contact dermatitis from dermatitis venenata, which is an immediate reaction in 100 per cent of individuals coming in contact with a universal irritant such as acids, strong alkalies and their salts.

Clinical Types

The acute types, e.g., poison ivy, are characterized by erythema, edema, vesicles, bullae and extreme itching, stinging or burning sensations. This type is usually extensive, spread by scratching and very sensitive to local medication. The subacute types are more localized and only moderately inflamed, papular or scaly and slightly infiltrated. The chronic types are less inflammatory, with scaling or fissures, and more infiltrated. There is often a history of recurrent flare-ups during contact with the sensitizing substance.

Common Contactants in Order of Frequency

Plants (21 per cent): Poison ivy, primrose, sumac, ragweed.

Proprietary drugs (20 per cent): Noxema, Vicks vaporub, Sloan's liniment, Zemo.

Cosmetics, (16 per cent): Soaps, nail polish, hair dye, hair tonics.

Professionally prescribed or used (16 per cent): Sulphur ointment, ammoniated mercury, Whitfield ointment, tar ointment, metaphedrin nose drops, tincture of iodine, phenolated lotions and ointments, calmitol, butesin picrate ointment, sulfathiazole ointment, and adhesive plaster.

Druggist prescribed (12 per cent): Sulphur ointment, blue ointment, liniments, unknown ointments and lotions.

Household products (5 per cent): Oxydol, soaps, chlorox, furniture polish, insecticides (oil of citronella, pyrethrum) shoe polish, turpentine, paints, oilcloth, lysol.

Occupational (4 per cent): Cutting and machine oils, gasoline, cement, plaster, turpentine, paint removers, formalin, flour, rubber cement, dyed leather.

Wearing apparel (3 per cent): Black or dark blue dyed dresses, furs, wool sweaters, rubber dress shields, brassiere strap adjusters, leather footwear, white gold jewelry, dyed gloves.

Unknown cause or causes (3 per cent).

Diagnostic Methods

Pattern and Character of the Eruption.—The simple case consists of a sharply defined patch or eruption with an artificial appearance located at the site of contact, e.g., wristwatch strap dermatitis on the wrist. It does not resemble any of the usual dermatoses, has no fixed or characteristic distribution and is often asymmetrical. In the more complicated cases, there is a more or less localized erythematous dry, moist or scaly dermatitis. The appearance of the lesions may change from day to day depending on the frequency, duration and nature of the contactant.

Regional Site of the Eruption. — The localization of the eruption, which often suggests the contactant to the expert, coincides with the point of maximum exposure. Thus an eruption in the armpit may be due to a particular sensitization to a rubber dress shield a deodorant or a dress dye. Patch tests are then used to discover the specific irritant.

Reaction Period. — It is important to determine the periods during the day or night, week, month or season when the eruption appears or increases in intensity. All the possible contactants in these periods are then listed, analyzed from the standpoint of cause and effect, and verified, if possible, by patch testing. Seasonal flare-ups may suggest wool clothing, "cold" medication, ragweed or plant irritants. Week-end flare-ups may suggest the Sunday rotogravure pages, perfume, "Sunday best" or sport garments, or contacts associated with hobby, garden or sports. Periodic flare-ups suggest sensitizers in the barbershop, theater, beauty parlor, gymnasium or plants in the home. Nocturnal flare-ups suggest pillow, pajamas, cosmetics used before retiring or contraceptives. The physician who is well acquainted with the habits, customs, details of employment of a patient is at a distinct advantage in finding the sensitizer.

Periods of Absence of Symptoms.—In spite of continued contact, periods of freedom may be due to alternating cycles of sensitivity and immunity. Usually, however, it means freedom from contact with the irritant. Week-end amelioration may suggest that the sensitizer may be found in the patient's office or place of employment.

History.—The patient's story should be guided by proper questioning to unravel the sequence of cause and effect. Otherwise the physician will be lost diagnostically. A definite history of the eruption appearing after the continued use of a new or old ointment, lotion, cosmetic or liniment, may be obtained from an intelligent patient. Recent employment and possible contacts with new sensitizers are suggestive. In some cases the patient can not offer any light on the cause until he goes home to confer with the family, think it over and "sleep on it."

Procedures if Cause is Unknown.—Special investigation is necessary. When a flare-up occurs in a patient with chronic contact dermatitis, the sensitizer may be discovered by asking the patient what he was wearing, using or doing at that particular time. Patch tests are then made with all the suspected substances. The choice of these tests depends on the exposure possibilities. Indirect contacts, e.g., husband's hair tonic or eruption on the arm from applications used on the scalp, must also be checked. An hour to hour chart listing all the possible direct and indirect twenty-four hour contacts may provide important information not otherwise obtainable.

Therapeutic Response.—Be suspicious of an eruption that has been treated by too many physicians with too many applications. *Overtreatment is a common and often serious error.* A patchy eruption that responds to simple medication up to the point of healing and then flares up, should arouse suspicion of contact dermatitis.

Improvement Following Removal of the Cause

Knowledge of Specific Irritants Affecting Specific Sites.—Standard dermatologic textbooks contain a list of sensitizers and their common sites of reaction. One must consider such new irritants as elastiglass, resin finishes on underwear, plastics, nail polish, nylon, wooden jewelry and sulfonated oils.

Clinical Test.—In the face of a negative patch test, all suspected sensitizers are avoided for a week or longer until improvement in the eruption occurs. Then each one is permitted to come in normal contact with the skin for a week at a time until a flare-up occurs. Thus the causal sensitizer is tracked down.

Patch Tests. — There are epidermal tests using dry, liquid or volatile chemical, vegetable or mineral substances to determine individual susceptibility. In themselves they are of no definite value in diagnosis but in conjunction with a good history they are a diagnostic aid. They should be made and the results, positive or negative, evaluated by the ex-

pert. The proper method of performing these tests can be found in standard dermatologic textbooks.

A positive patch test may indicate that the substance used is the true cause of the dermatitis; or it may simply mean the substance is a universal irritant in the concentration used, if a liquid, and that a positive skin test would be obtained on anybody's skin.

Few physicians are aware of the importance of the negative patch test. It may indicate that: 1. The substance used was not the cause of the dermatitis. 2. The dilution used was too weak to produce a visible reaction. 3. The test was read too soon (in some cases a reaction may appear as late as thirty days). 4. The site chosen was refractory or too far from the area of the dermatitis. 5. The test was made too late and hypersensitivity had disappeared. 6. The test did not faithfully reproduce all the factors at the time the eruption was acquired, e.g., friction, moisture, perspiration, vasomotor imbalance, fatigue, sunlight and various unknown conditions.—N. M. TOBIAS, M.D. in J. Missouri M. A., Sept. 1943.

Gout

Gout may be treated with—

℞ Vin. colchicum .....20 min.
Sod. citrate.....30 gr.
Magnesium carbonate .....10 gr.
Aqua menth. pip. ad ..... 1 oz.

Sig. One fluid ounce in hot water every four hours until relieved or until faintness, nausea, vomiting or diarrhea appear.

Colchicine may be given, gr. 1/70 every three hours, or colchicine salicylate, gr. 1/250 every two hours, in acute gout.

Chronic gout: Purine-free foods should be eaten; fatty foods, fried foods and pork, duck, goose and sardines should not be eaten, as the blood uric acid rises with a fatty diet. Substances rich in purines, such as liver, kidneys, brain, meat soups, sweetbreads, and meat extracts must not be eaten. No alcohol should be taken.

Uric acid can be eliminated by (1) *cinchophen* (occasionally causes hepatitis) in doses of 7½ gr. twice daily for 3 days a week for 3 weeks together with sodium bicarbonate gr. 60 three times daily, or (2) sodium salicylate in 20 or 30 gr. doses with sodium bicarbonate

Significance of Vomiting

Type	*Cause*
Sudden, unexpected or projectile vomiting	Increased intracranial pressure due probably to a brain tumor.
Vomiting with marked dizziness	Meniere's syndrome with disease in the ear or brain.
Sudden vomiting and dizziness	May be the only symptom of a thrombosis in a small, intracranial artery.
Vomiting in nervous women	Spells of vomiting are due to fatigue, jitteriness, worry, excitement or premenstrual tension.
Vomiting of bile without food	This means that there is no obstruction at the pylorus, and the stomach is emptying faster than normal. The vomiting of bile means only that there is reverse peristalsis in the duodenum and perhaps the upper jejunum.
Vomiting	Disease in the heart, kidneys, gallbladder, brain, thyroid gland, ovaries, uterus, adrenal glands, and perhaps any organ in the body. Toxins of infectious disease, malaria, or accumulation of any poison or drug in the blood. Psychic impressions, over-sensitive nervous system, menstruation, pregnancy or any pain.
Vomiting versus regurgitation	Regurgitation means the bringing up of mouthfuls of food, without nausea or retching, usually beginning shortly after a meal or during it; usually functional. If the patient induces vomiting by putting finger down his throat, the cause is usually functional.

—WALTER ALVAREZ, M.D., in *"Nervous, Indigestion and Pain"* (Hoeber, Publisher).

40 gr. three times daily for 3 days a week for four weeks.

Whey is supposed to be the best remedy for uric acid gravel. Whey is made by adding a tablespoonful of rennet to a pint of milk which is brought to 99 F. (blood heat) for one-half hour. It is then allowed to cool and the curds are strained off. A full glass (eight ounces) are taken each evening.

A search should be made for dead teeth, infected tonsils and other foci of infection. An autogenous vaccine prepared from throat streptococci may be helpful. It should be given weekly in doses gradually increasing from 50,000 to 15 or 20 millions for prolonged periods of a year or so.

Surgical removal of gouty deposits or chronically infected bursae may result in increased function.—F. E. BEAUMONT, D. M. F.R.C.P., *Med. World* (Lond.) June, 1944.

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A Complete Cancer Examination

The Memorial Hospital, located at 69th Street and York Avenue, furnished this set of rules for a complete examination of a patient who is suspected of having cancer.

Site	Apearance or symptom of cancer at this site.
Lips, tongue, cheeks, tonsils, pharynx.	Persistent ulceration
Larynx.	Persistent hoarseness
Lungs.	Persistent cough.
Skin of face, body and extremities.	Scaly, bleeding warts, black moles, unhealed scars.
Breast (of every woman).	Lumps, bleeding nipples.
Subcutaneous tissue.	Lumps on arms, legs, and body.
Palpate the abdomen X-ray studies	Persistent indigestion. Difficulty in swallowing.
Neck, axilla, inguinal area.	Enlargement of lymph nodes.
Uterus	Enlargement, laceration, bleeding, or new growth.
Ovaries	Bimanual examination.
Rectum, examination by palpation and proctoscopy.	Bleeding or pain.
Bones, examine and x-ray.	Bone is the seat of boring pain, worse at night.

This examination form is obtainable by the patient also. The Memorial Hospital is widely known for scientific, persistent treatment of large numbers of cancer patients.

The Clinical Value of Positive Sputum

The discovery of tubercle bacilli in the sputum is of value for the following reasons: (1) It proves tuberculosis is present; (2) It proves that the disease is active. Although one can often state that the disease is active by the roentgenologic appearance of the lungs, the reverse is not true. There are no criteria by which one can diagnose inactivity from a single film, or, in some forms of the disease, from a series of films. Sputum studies will often reveal that a lesion, indiscreetly labelled inactive by the reader of the film, is a plentiful source of tubercle bacilli. (3.) It proves that the patient is infectious, and suggests that already he may have infected some of his contacts. (4) The numerical trend of the sputum studies toward positive or negative findings is one of the best guides to the course of the disease and to the treatment indicated.

Negative sputum, even persistently negative sputum, does not exclude tuberculosis from the differential diagnosis. The most careful technician may fail to demonstrate bacilli in the late stages of acute exudative tuberculosis even when the roentgenologic appearance of the lesion suggests caseopneumonic disease, or in extensive acinous-productive involvement when two-thirds of the entire pulmonary area may appear to be involved. In such cases, bacilli are probably always present, at least intermittently, even though direct sputum cultures or animal innoculations are negative. This is demonstrated by the frequency with which gastric concentrates will reveal bacilli, following animal innoculation.

When bacilli are present in the sputum, failure to find them by routine tests is usually dependent on one or more of four factors, namely: paucity in number, intermittent presence, unsatisfactory sputum specimens, and the personal equation of the technician. A common source of confusuion arises when a careless laboratory technician reports an obviously unsatisfactory specimen (saliva) simply as "negative," when it should be reported as "negative — unsatisfactory specimen." A satisfactory specimen of true sputum from the same patient might be teeming with tubercle bacilli.

Examinations of the Fasting Gastric Contents

Many patients with roentgenologic and clinical evidence suggesting tuberculosis are not conscious of raising sputum and

it is difficult to obtain satisfactory specimens from them for examination. Such patients are often continuously, although usually unconsciously, swallowing small amounts of sputum which become "pooled" in the stomach. Concentration of the fasting gastric contents and subsequent examination by smear, culture, and animal innoculation is an excellent method for demonstrating the tubercle bacillus in a considerable percentage of these cases. Gastric lavage for tubercle bacilli is of particular value in children, who nearly always swallow their sputum.

Negative Chest X-ray Associated With Tubercle Bacilli in the Sputum

Acid-fasts in the sputum nearly always turn out to be true tubercle bacilli. This having been proved by cultures or guinea pig innoculation, it is evident that a tuberculous lesion must be present in spite of the negative x-ray. Under these circumstances, the lesion nearly always consists of either a caseous hilar gland which has ulcerated into a bronchus, or of a cavity in the subapical portion of a lower lobe.—D. R. CHISHOLM, M.D., in *Hawaii Med. Jour.*, May-June, 1943.

✦

Estrogenic Substances for Uterine Bleeding

Promising clinical results have been obtained in the treatment of prolonged, vigorous, and unduly frequent flows, due to hypofunction of the ovaries, by use of large doses of estrogen followed by a combination of estrogen and progesterone. Before starting this therapy, careful investigation should be made to eliminate systemic bleeding tendencies and to eliminate local pelvic disorders of neoplastic or inflammatory nature. To carry out these investigations immediately after cessation of the flow, very brief courses of estrogen may be used occasionally to arrest bleeding. —Am. M. Assn., Council on Pharmacy and Chemistry, in *J. A. M. A.*, Jan. 22, 1944

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Pilonidal Cyst: Common Sense Treatment

The treatment of a pilonidal cyst (also called cyst teretoma, sacral, in the Navy) is the treatment of its complications. There is no more indication for operation, unless a complication has occurred, than there is for removing an appendix just because there is one present. The cause of the complication is infection, brought on by trauma. Confronted with an abscess in the sacrococcygeal region, or one or more draining sinuses in this area, what should be done?

Any attempt to close primarily an abscess, acute or chronic, will frequently result in failure. No thinking man would carve out an abscess in any other part of the body, close the cavity and expect it to heal by first intention.

Pilonidal cysts can be eradicated by adequate drainage and intelligent, frequent and personal observations postoperatively.—W. J. MARTIN, M. D. in *South. Med. & Surg.*, May 1944.

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Gastroenteritis and Mastoiditis

Diarrhea, vomiting and dehydration in infants may be due to an unsuspected mastoiditis. The lymph nodes in the posterior triangle of the neck are enlarged so that they roll under the finger. One should examine an infant with "gastroenteritis" carefully.—P. W. LEATHART, 1944.

(Any infection in an infant may cause diarrhea and vomiting. I recall with chagrin a girl of 3 who entered the hospital in marked dehydration, after several days of persistent diarrhea and vomiting. The child could not talk coherently, but in the rush of practice this was overlooked. After sufficient fluids had been given, her gastrointestinal symptoms stopped and her fever disappeared. It was only then that the diagnosis of a mild encephalitis was made.—Ed.)

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Fainting and the Heart*

When one is called to see a patient who has fainted or lost consciousness, it is a 20 to 1 bet that the patient does not have heart disease or that the fainting spell is not due to the heart disease.

The most common cause of unconsciousness due to heart disease is *heart block due to arteriosclerotic changes*. The treatment of these is as follows: Control the congestive failure, then give epinephrine or ephedrine.

The second most common cause is *aortic stenosis* and the third is *paroxysmal tachycardia*.

Hyperactive Carotid Sinus

Hyperactive carotid sinus: This is relatively common. I have seen more than 300 patients with hyperactive carotid sinus in 5 years.

Errors in diagnosis: Syncopic attacks due to the sinus are diagnosed often as heart block or idiopathic epilepsy.

What it is: The carotid sinus is a bulbous dilatitation of the first portion of the internal carotid artery. Anatomically, there is not much difference be-

*J. Iowa S. M. Soc., May, 1944.

tween the walls of the sinus and the walls of the rest of the artery. It receives a branch from the ninth cranial nerve and also from the superior cervical ganglion. Everyone has this dilated bulb, the carotid sinus.

What it does: It has something to do with controlling respiration, blood pressure and heart rate.

Why some persons become hyperactive, I do not know. During an induced or spontaneous attack, the blood pressure usually falls and the respirations are slow, deep and labored. To induce an attack, one makes pressure over the carotid sinus, which is easily palpable. One can palpate it on practically everyone. The pressure will usually slow the pluse and reduce the blood pressure or it may even result in cardiac standstill.

How is it diagnosed? A history may be given of frequent losses of consciousness and it may be difficult to distinguish between hyperactive carotid sinus and idiopathic epilepsy. Usually, the patients have their spells when they are lying down. The attacks may last from a few minutes to one half hour. They may have a generalized convulsion.

The proof of the diagnosis is made by mechanically pressing on the carotid sinus and bringing on an attack.

Treatment: If the attacks are mild and rare, no treatment is necessary except reassurance.

If the spells occur frequently and are severe, either phenobarbital of phenytoin sodium (Dilantin*) give better results than other medication, although sometimes any medication is not very efficacious.

A number of severe cases have been treated surgically, by cutting all the nerve supply to the carotid sinus. If one has a case in which the spells are occurring often and are severe, then, if a thorough trial of medication has not produced any inprovement, one is justified in recommending surgical treatment, since it is not a mutilating operation or one that entails much risk. One operates on the side that is most active. —HARRY L. SMITH, M. D. Rochester, Minn.

(The subject of carotid sinus activity has become of great clinical interest in the last few years. Our medical artist made up three sketches showing the relationships of the sinus. Pressure or massaging over the sinus is one way of stopping paroxysmal tachycardia.—Ed.)

*Produced by Parke, Davis & Company.

Fig. 1. Anterior view of neck showing the thyroid cartilage ("Adam's apple"), sternomastoid muscle and location of carotid sinus.

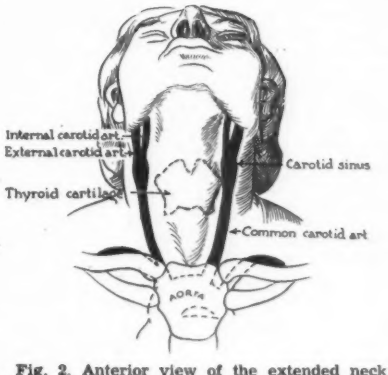

Fig. 2. Anterior view of the extended neck depicting the approximate size and position of the carotid sinus.

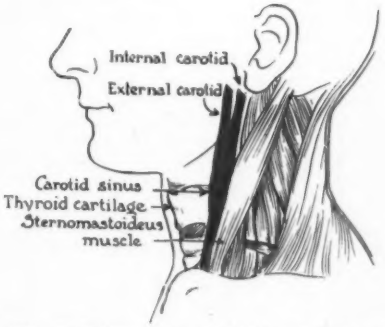

Fig. 3. Lateral view illustrating location of the carotid sinus and relationship to thyroid cartilage.

Simple Vaginal Hysterectomy

Abdominal hysterectomy has become such a safe procedure in recent years, with a mortality rate of 1 to 2 per cent for the total operation, that many of us have forgotten that the vaginal route is even safer, with a mortality rate of 0.3 per cent and less. The same factors which have lowered the mortality rate of the abdominal operation likewise operate to lower the mortality rate of the vaginal procedure.

Vaginal hysterectomy is easier in virginous and nulliparous patients than in the multiparous, because frequently in the latter there has been more or less fixation of the vault due to cervical tears and infection, whereas in the former the vault is more mobile and the cervix can usually be pulled down readily to the vaginal introitus, which facilitates the incision and early part of the mobilization of the uterus.

Its advantages are that the peritoneum is closed under direct vision and the vault is supported by the round ligaments, cardinal and uterosacral ligaments, thus tending to give good depth and support to the vault, which is closed by suture and usually heals by primary intention rather than granulation.

A circular incision is made at the cervicovaginal juncture unless there is considerable prolapse, which may require removal of more of the vault of the vagina. The bladder is freed from the uterus and for a short distance from the anterior vaginal flap, so that this can later be safely closed without jeopardizing the bladder. The vaginal flaps are now elevated by pushing them back with the gauzed finger as steady traction is made on the cervix toward the vaginal outlet. The bladder is elevated in the same manner and laterally is pushed up, thus carrying the ureter upward and laterally from the point where the uterine vessels will be tied.

If there is associated cystocele or urinary incontinence, the incision is lengthened on the anterior vaginal wall to within 1 cm. of the external urethral orifice and the redundant vaginal mucosa is excised. The pubocervical fascia is dissected from the vaginal flaps and then the two lateral portions of this fascia are approximated in the midline below the bladder with interrupted silk sutures. As a rule, one obtains better exposure for repair of the cystocele if it is done before removing the uterus; however if the uterus is large and might tear out some of the sutures as it is delivered, it is best to delay the repair until after the uterus has been removed.

Proceeding with the hysterectomy, the cul-de-sac of Douglas is opened and the posterior surface of the uterus and peritoneum explored with the finger to rule out any adherent intestine. Using a curved forceps, preferably of the Heaney type, the lower portion of the left broad ligament, including the uterosacral and cardinal ligament, is clamped, cut and immediately secured by means of a ligature placed with a needle, using No. 1 chromic catgut. One end of each ligature is left long to facilitate closure of the peritoneum and reconstruction of the vault. The next clamp is placed higher and includes the uterine vessels, and the third clamp controls the utero-ovarian anastomotic vessels, which course up the side of the uterus. Both are secured with suture ligatures. Now the right side of the uterus is dealt with similarly and the peritoneum is opened anteriorly at the vesical reflection. The uterus is now entirely free except for the horns. Delivering the fundus posteriorly, the round ligament, uterine end of the tube and utero-ovarian ligament are clamped, cut and ligated on either side. The adnexa are inspected and removed if indicated. Making gentle traction on the ends of all eight ligatures brings the peritoneum into view so that it can be closed under direct vision with a running suture approximating the vesical reflection of peritoneum to the posterior reflection in the cul-de-sac. This places all raw surface extraperitoneally.

The vault is next reconstructed and supported by closing the incision in the transverse axis. The most lateral suture in either angle of the vault is tied to the ligatures previously left long on the cardinal and uterosacral ligaments. This approximates the angles to their normal supporting structures. The next two more medial sutures on either side of the vault incorporate the corresponding round ligament. The round ligaments are then tied together in the midline and the vault is closed over the stumps, leaving them between the peritoneum above and the closed vagina below. If a cystocele was repaired, the portion of the incision running up to the urethra is closed so that after closure the tennis racket incision has assumed the appearance of an inverted T. If repair of the perineum is indicated, this is carried out last. A retention catheter is not used unless there has been a repair of a cystocele. Without repair work, the patient is up in three days and usually leaves the hospital on the sixth day. With repair, the patients sits up in eight days and leaves the hospital on the four-

teenth day unless residual urine requires longer hospitalization.

The immediate and late results of this technic have been very satisfactory. There is no greater tendency to postoperative vaginal bleeding than after total abdominal hysterectomy, and there has been no ureteral injury. The bladder is not as readily injured as in the abdominal procedure because it is easier to find the plane of cleavage between the uterus and the bladder when working vaginally than from above.

The writer has used this method of vaginal hysterectomy in about six hundred cases with two deaths, or a mortality rate of 0.3 per cent. About seven-eighths of the patients had, in addition to the vaginal hysterectomy, repair of cystocele and rectocele. Many of these have been re-examined months and years after operation, and the mobility and support of the vault have been very satisfactory.

—J. M. Waugh, M. D., in *J. Indiana S. M. A.*, Oct. 1943.

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Paroxysmal Hemoglobinuria

The most important cause of hemoglobinuria is malaria and for this reason many other forms have been confused with it. Within the present century paroxysmal hemoglobinuria has been identified as definitely of syphilitic origin.

"There is a sense of wretchedness, slow, feeble pulse, hands and feet obstinately cold, with blue fingers and toes, and clammy cold perspiration; often a sense of constriction in the loins, as though a rope were tied around inside one; but these may pass off without being followed by any fever whatever. The attacks may be of very short duration; the secretion passed one hour may look like coffee and the preceding and following be quite healthy."

Patients quickly learn that exposure to cold has a most important bearing on the occurrence and severity of the paroxysms. There is enormous variation in susceptibility of different persons. Also, the symptomatology may vary from the above description to red urine without any discomfort whatever.

In the majority of patients there is a latent interval of a few minutes to several hours after the chilling before the onset of the prodromal malaise, anorexia, and assorted aches and pains especially in the lumbar region, with perhaps numbness of the extremities. Prodromal period leads into paroxysms of chills and fever, frequently with headache, sweating and vomiting in the more severe attacks. The next urine passed will vary in color from a bright red to a dark brown.

The symptoms are of short duration and patient feels entirely well within a few hours or after a night's sleep. During the attack patient may show pallor or cyanosis, some enlargement of spleen or liver or a temporary rise of blood pressure.

Between attacks patients usually enjoy good health although examination may reveal the pallor of a marked secondary anemia or staining or pigmentation of skin and conjunctivae.

Blood changes are of profound importance. During the latent period between chilling and paroxysm there is a leukopenia, a relative lymphocytosis, coagulation time and viscosity of the blood are increased and blood pressure falls. The paroxysm is followed by a decrease of as much as 20% in the hemoglobin and as much as 2,000,000 in red cells. Plasma is red instead of straw colored but little of the hemoglobin liberated appears in the urine.

The patient knows little of what is going on in his blood but is much agitated by the sudden appearance of red urine and quite as much mystified by the disappearance of the color. In addition to the hemoglobin and its derivatives found in the urine there may be a few red cells, considerable albumin and numerous casts.

There seems to be no particular geographical distribution of the disease except that it is more frequent in the temperate and cold climates. Males are affected 3 times as frequently as females. Wassermann reaction is positive in 90-95% of cases and the disease is considered a tertiary manifestation of syphilis occurring in congenital syphilitics and in adults from 5 to 20 years after infection.

Students of the disease have felt that there are other causal factors besides syphilis and cold; attacks have been induced by physical exertion, though here it is necessary to distinguish from March hemoglobinuria. Others have been precipitated by emotional stress and worry. Also the low cold resistance of patients with poor peripheral circulation must be taken into consideration.

Refuge in the warmth of clothing has not been effective in preventing attacks. All other therapies have now been replaced by antiluetic treatment. Out of one series of 14 patients 10 yielded on antisyphilitic therapy, one died, one was still under treatment, and two failed to report.—I. P. Stephenson, M. D., in *McGill Med. J.*, Oct. 1943.

THUMBNAIL THERAPEUTICS

Quinine Neurosis in Servicemen

A neurosis precipitated by quinine is often found in returned service men who report sick for malaria and who have been taking large doses of quinine daily. Examination shows no parasites or clinical evidence of malaria. It may be advisable to withhold antimalarial drugs until the disease reappears.—*Trans. Roy. Soc. Trop. Med.*, May 1944. (Eng.)

Acute Urinary Retention

• The common conditions to consider in the differential diagnosis of acute urinary retention in a male of 60 include urethral stricture, benign prostatic hypertrophy, vesical neck obstruction or median bar, carcinoma of the prostate, neurogenic bladder, acute prostatitis and pressure from extra-vesical masses. Other conditions are sarcoma or tuberculosis of the prostate, vesical growths, posterior urethral tumors, polyps, cysts and foreign bodies in the bladder.—B. BOSHES, M. D., in "A Review of Medicine" (Northwestern University Press).

Acute Epigastric Pain

• In the presence of severe, sudden epigastric pain, one should remember that 98 percent of acute perforated peptic ulcers occur in men. If the patient is a female, the diagnosis of acute pancreatitis is much more probable.—W. L. PALMER, M. D., in Cecil's "Textbook of Medicine" (W. B. Saunders Co. Publishers).

Epigastric Pain Before Breakfast

•Epigastric pain appearing before breakfast should make one consider cancer of the stomach, rather than duodenal ulcer. —WALTER ALVAREZ, M.D.

• When faced with a difficult diagnostic problem, the best way to go about solving it is to take the history all over again. If this does not help, I usually ask a colleague to see if he can clarify the story or if he can draw out some important information which I failed to get.—WALTER ALVAREZ, M. D.

Indications for Total Pneumonectomy

• Total pneumonectomy in 1 stage with individual ligation of the hilar vessels and suture of the bronchus is usually indicated for primary *new growths*, *chronic suppurative disease*, *and a small percentage of selected cases of tuberculosis*. Tuberculosis patients with stricture of the main bronchus of the diseased lung preventing adequate aeration and drainage of secretions, thick-walled, uncollapsible cavities, or a universal bronchiectasis are suitable candidates for pneumonectomy. In 25 operations for neoplasm, mortality was only 12%. Surgical intervention is warranted in all suitable cases, since mortality without operation is 100%. The operation produced no impairment of function of activity.—E. A. GRAHAM, M. D., in *Dis. of Chest*, Mar.-Apr., 1944.

Chronic Ill Health and Sinusitis

• Chronic, unexplained ill health may be due to paranasal sinusitis, especially if there is history of onset with some rhinological affection, other results of a septic focus, and contracted visual fields. Favorable response to drainage is diagnostic and therapeutic. Ill health for 1 to approximately 40 years in 7 patients, and concomitant severe dysmenorrhea and menorrhagia in 3, were relieved promptly after drainage of the sinuses by intranasal medication, that is, Argyrol (mild silver protein) irrigation. —R. FORD, M. D., in *Practitioner*, Mar., 1944.

Vitamin B Prevention of Subinvolution

•Postpartum subinvolution of the uterus may result from nutritional deficiency occasioned by the increased, but unsatisfied needs of pregnancy. This nutritional deficiency leads to failure of inactivation of estrogen in the liver; the excess of estrogen prevents normal involution.

The administration of an adequate supplement of vitamin B complex during pregnancy decreases the number of patients with subinvolution and such sequelae as "spotting" or menorrhagia.—M. S. BISKIND, M. D., in *West. Journal Ob. & Gyn.*, June 1944.

DIAGNOSTIC POINTERS

Thyroid Dosage

• Tolerance to dried thyroid does not develop in the myxedematous patient even after years of medication, the relationship between the basal metabolic rate and dosage tending to be linear. Response to dried thyroid in myxedema is so specific and quantitative that diagnosis may properly be questioned if this characteristic effect cannot be demonstrated. The daily dose necessary to restore the basal metabolic rate to normal lies between 1 and 3 gr.—A. W. WINKLER, M.D., in *Ann. Int. Med.*, Oct. 1943.

Treatment of Vincent's Angina

• Chromic acid is applied to the gums, followed by hydrogen peroxide solution resulting in oxygen bubbling up from the depths of the pockets. Aqueous 10 percent mercurochrome solution is then saturated into the pockets. This routine is repeated daily for at least 3 days. Copper sulphate solution, 1-1.000, is added to the mouth wash routinely used.—F. D. FRANCIS, D.D.S., *South African Dent. J.*, Aug., 1943.

Pitressin Tannate for Diabetes Insipidus

• The intramuscular injection of pitressin tannate in oil every 30 to 32 hours controls the polyuria of diabetes insipidus. From 5 to 10 pressor units are given at each dose. This procedure avoids the injection two to four times daily of aqueous posterior pituitary solution.—M. H. WOHL, M.D., in *Med. Clin. N. Am.*, Nov. 1942

Nausea and Vomiting in Pregnancy

• With pyridoxine hydrochloride as an adjunct to the usual treatment of nausea and vomiting in pregnancy, partial or complete relief of symptoms was rapidly obtained in 32 pregnant women, report B. Bernard Weinstein and associates, of Tulane University School of Medicine. Intramuscular injections of 50 to 100 mg. of the drug were given three times weekly with favorable response resulting after 150 to 1050 mg. had been given; no toxic effects were noted.—B. B. WEINSTEIN, M.D., in *S. G. & O.*, Oct. 1943.

Pneumococcic Conjunctivitis

• Tyrothricin (except Friedlander's type) 30 mg. per hundred cubic centimeters is dropped freely into the eyes four to six times daily. For pneumokeratitis and ulcer the same dosage of tyrothricin is used with oral administration of sulfapyridine or sulfadiazine, 2 to 4 Gm., initial dose, followed by 1 Gm. every four hours around the clock. Locally one may use atropine, the cautery and, if indicated, paracentesis and delimiting keratectomy. Foreign protein and typhoid-paratyphoid vaccine have proved value.—PARKER HEATH, M.D., in *J.A.M.A.*, Jan. 15, 1944

Peptic Ulcer

• The administration of hydrochloric acid after operation might reduce the demand on acid formation and would be a more rational treatment than the giving of alkalies which are known to be acid-stimulating.—J. L. DECOURCY, M.D., in *Am. J. Surg.*, Oct. 1943.

Vitamin B for Eye Symptoms

• Four to eight days treatment with 4 capsules of vitamin B complex frequently relieves frontal headache, burning and hurting of eyes with lacrimation, when the patient reads and "words run together." It is eye strain, not a refractive error.—A. C. GIPSON, M.D., in *J. A. M. A.*, Feb. 1943.

Arterial Occlusions

•Paravertebral (sympathetic) block with novocaine solution is highly important in the management of arterial occlusions, traumatic arterial spasms, venous thromboses, frostbites and early reflex dystrophies (causalgias).—G. DE TAKATS, M. D., in *War. Med.*, Nov., 1943.

Specific Keratitis and Ulcer Due to Bacillus Pyocyaneus

• This requires early treatment (a matter of hours) with sulfapyridine or sulfadiazine; the initial dose is 4 to 5 Gm., it is followed in one hour by 2 Gm., and thereafter by 1 Gm. every four hours around the clock. The treatment is continued for ten to twenty-one days, the dosage being regulated by blood levels and the clinical course.—PARKER HEATH, M.D., in *J.A.M.A.* Jan. 15, 1944

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE, Waukegan, Ill., is accompanied by a check for the published price of the book.

When I get a little money, I buy books; and if any is left, I buy food and clothes —Erasmus.

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NERVOUSNESS, INDIGESTION AND PAIN

Alvarez

NERVOUSNESS, INDIGESTION AND PAIN. *By Walter C. Alvarez, M.D., Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Division of Medicine, The Mayo Clinic, Rochester, Minnesota. Published by Paul B. Hoeber Inc., Medical Book Department of Harper and Brothers, New York, N.Y., 1943. Price, $5.00.*

The physician who isn't interested in this book is not interested in helping his patients. Surgeons who wonder why results are not better after technically perfect operations, physicians who strain to make a diagnosis on the "tired" patient, or who are curious as to the failure of good medical therapy, will find the answer here.

The author deals with failures of medical or surgical therapy in certain types of patients. He emphasizes the importance of the history in making the diagnosis, giving many brief, illustrative case histories.

The book is so smoothly written that it is as enjoyable as a round table talk with the well trained, entirely honest, and always interesting author. Those of us who have been in practice for a number of years, wish that this book would have been available so that we could have avoided many of the errors shown, and some of which we have been unconsciously repeating.

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MANAGEMENT OF COLITIS

Bargen

THE MODERN MANAGEMENT OF COLITIS. *By J. Arnold Bargen, M.D., M.S., F.A.C.P., Chief, Section on Intestinal Diseases, Division of Medicine, Mayo Clinic; Associate Professor of Medicine, Mayo Foundation; Secretary, American Gastoenterological Association. Published by Charles C. Thomas, Springfield, Ill., 1943. Price, $7.00.*

This book sets forth the author's experiences, at the Mayo Clinic, in the proper treatment of various colonic disturbances. Very properly, he places irritable colon, which is usually dubbed "colitis" by most patients and a few physicians, first and gives very complete details for physical, dietary and psychotherapeutic treatment. Thromboulcerative colitis is covered in great detail.

An often overlooked cause for large bowel disturbances, allergy, is well covered. Differential diagnosis of conditions simulating colitis makes up one very interesting chapter.

Segmental colitis, tuberculous colitis, ameble colitis, food and vitamin deficiency "colitis," venereal lymphogranuloma ulcerative colitis and bacillary dysentery colit are also considered.

Fifty-six case reports show actual deta of handling of various patients. The autho frankness in presenting a fairly large numb of deaths during and after ileostomy f chronic thromboulcerative colitis is to be co mended.

Although the author mentions the emotion factor in consideration of irritable colon, gives it little place in the treatment idiopathic ulcerative colitis, yet it is w known that flare-ups and bleeding occur aft emotional upsets, and that the condition is psychosomatic one.

At no point is the differential diagnos of colitis brought out by a systematic de cription, proctoscopic views and roentgeno gic replicas. Inasmuch as the diagnosis an follow up depend so much on procto- an sigmoidoscopic appearances (many of whic are not too familiar in the less common form of colitis) and roentgen findings, it is to b hoped that the next edition contains suc graphic teaching aids.

"Conditions To Be Differentiated From C litis" is a chapter which is worth the pric of the book. Many clinical pointers are give on ruling out conditions in the bowel, kidne and blood.

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AMERICAN PSYCHIATRY

ONE HUNDRED YEARS OF AMERICA PSYCHIATRY. *J K. Hall, M.D., Genera Editor; Gregory Zilboorg, M.D., Associat Editor; Henry A. Bunker, M.D., Assistan Editor; Additional Editorial Committee from the American Psychiatric Associatio and from the American Association of th History of Medicine. Published for th American Psychiatric Association by Colum bia University Press, New York City. 194 Price, $6.00.*

This volume is a masterpiece of the printer art, beautifully printed and bound.

Its contents are as delightful as its form In addition to interesting notes on the origi and progress of psychiatry in America durin the last century, there are many statement of clinical interest in the fields of diagnosi and therapy.

A number of authors have contributed spe cial sections, under the general editorship o the genial Dr. Hall.

Under military psychiatry, one finds tha physicians as far back as the Civil War were urging that men under 20 years should no be taken into the army, as they were not s well balanced mentally and did not resist nos talgia and depression. Now that the merchant marine has just announced that boys of 1 and over may be admitted for fairly rigorous training, one wonders if these prophecies will prove true.

It is interesting to read of the varying steps that have been made in psychiatric research and that S. Weir Mithcell said in 1864, o psychiatrists, "You live alone, uncriticized, un questioned, out of the healthy conflicts and honest rivalries which keep us (the neurologists) up to the mark of fullest possible competence." In 1943, at the Interstate Postgraduate Assembly, the suggestion, was made that milder mental patients be treated in general hospitals so that physical components not be overlooked.

American mental hospitals are described as to their history, architecture and progress, and present ones are listed with date of establishment.

The history of phychiatric therapies is valuable as it orients one on the many treatments

that have been advocated, and will no doubt be advocated again.

This book is one that is a joy to have at hand, to read and to refer to, to pick up for a moment's refreshment.

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TRAUMATIC INJURIES OF FACIAL BONES

Erich, Austin

TRAUMATIC INJURIES OF FACIAL BONES. An Atlas of Treatment *by John B. Erich, M.S., D.D.S., M.D., Consultant in Laryngology, Oral and Plastic Surgery, Mayo Clinic, Assistant Professor of Plastic Surgery, the Mayo Foundation, Graduate School, University of Minnesota; Diplomate, American Board of Plastic Surgery, and Louie T. Austin, D.D.S., F.A.C.D., Head of Section on Dental Surgery, Mayo Clinic and Associate Professor of Dental Surgery, The Mayo Foundation; Graduate School, University of Minnesota. In Collaboration with Bureau of Medicine and Surgery, U.S. Navy. Published by W. B. Saunders Company, Philadelphia, Pa., 1944. Price $6.00.*

At last, a practical book on management of injuries of facial bones. Instead of pages of text describing imaginary cases, it is made up in Atlas form with photographs of clinical cases, bony demonstrations and various apparati, on each left page and technic of care described on the opposite page.

Rare and common fractures are described and shown as well as all methods of treatment, including simple reduction, bone graft, use of pins, wires, intranasal appliances and plaster casts.

Every man who must handle injuries of the facial bones, be he general surgeon, industrial surgeon or plastic surgeon, will be aided by this manual.

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ANATOMY OF HEAD AND NECK

Shapiro

APPLIED ANATOMY OF THE HEAD AND NECK. *By Harry H. Shapiro, D.M.D., Assistant Professor of Anatomy, College of Physicians and Surgeons, Columbia University. 189 pages, with 173 illustrations. J. B. Lippincott Company, Philadelphia, London, Montreal. Price $5.50. 1943.*

The book does not present material which is new, but does, as the author states in his preface, attempt to "correlate the structural relationships of the head and neck, with numerous applications to every branch of dental and oral therapy." It is felt that the author, has, in some instances, digressed too far afield in the related dental subjects, which are more completely discussed in books pertaining to those particular branches of dentistry. The book is probably a worth while reference manual for the dental student but it is doubtful if it will be of great interest to the general practitioner of dentistry or medicine.

Ten chapters are listed, as follows: 1. Examination of the Patient, 2. Development and growth of oral and associated structures, 3. The skull: anthropometric and roentgenologic considerations, 4. Musculature of the face and jaws. 5. The tempormandibular articulation, 6. Structural changes due to loss of teeth, 7. Neuroanatomic considerations, 8. Blood vessels, lymphatics and salivary glands, 9. Anatomic considerations in war surgery of importance to the dentist.—J. M. F., D.D.S.

CHILDREN CAN HELP THEMSELVES

Lerrigo

CHILDREN CAN HELP THEMSELVES: The Normal Child's Health Behaviour. *By Marion Olive Lerrigo, Ph.D., New York City. Published by The MacMillan Company, New York, N.Y., 1944. Price $2.25.*

The average intelligent parent these days wants to know all he can about the health and behavior of his child, especially from the standpoint of whether the youngster is normal or not.

Here is a book, written for the layman, which in an easy to read narrative describing the growth of a typical "average" child from birth to 11 years. The chapters are so arranged that each corresponds to a significant step in development: 1 month old, 4 months, 8 months, 1 year, 18 months, 2 years, 3 years, and so on up. For each period, description and counsel are given concerning eating, sleeping and resting, dressing and undressing, toilet habits, keeping clean, play and exercise, adventuring safely, learning about the world and developing mentally, expressing and controlling emotions, and growing up socially.

The ideas expressed, which conform in all essentials with the points of views of contemporary psychology and pediatrics, are easy for the reader to grasp because of the story forms used by the author as a pedagogic device.

This book is designed to guide parents rather than doctors, but any physician who is interested in watching his own children grow up will enjoy reading it, and patients will be grateful for having it recommended to them.—J.J.W.

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FERTILITY IN WOMEN

Siegler

FERTILITY IN WOMEN: Causes, Diagnosis and Treatment of Impaired Fertility. *By Samuel L. Siegler, M.D., F.A.C.S., Attending Obstetrician and Gynecologist, Brooklyn Women's Hospital; Attending Gynecologist, Unity Hospital; Attending Sterility Clinic, Greenpoint Hospital; Consultant in Gynecology, Rockaway Beach Hospital; Diplomate, American Board of Obstetrics and Gynecology; Member Society for the Study of Internal Secretions. Foreword by Robert L. Dickinson, M. D. 194 illustrating, including 48 subjects in full color on 7 plates. Published by J. B. Lippincott Company, Philadelphia, Pa. 1944. Price, $4.50.*

This book presents in interesting, illustrated form the material necessary for the physician who wishes to advise and treat his sterile female patients (a companion volume published by Lippincott covers the field of sterility in the male).

The diseased cervix is one of the most common causes of sterility. Full color plates illustrate the normal and diseased cervix and results of cauterization and conization.

Full details and pictures illustrate the study of the fallopian tubes.

The taking of a history in sterility cases is discussed with material on need of rest, diet and so on. The method of physical examination is stressed together with study of cervical and vaginal secretions and postcoital study.

Most of the methods presented are simple and may be used in the average office.

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